The Internet: a framework for understanding ethical issues

A thesis submitted to Middlesex University
in partial fulfilment of the requirements for the degree of
Doctor of Philosophy

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November 2001

INTERNET ETHICS

Abstract

The impact and influence of the Internet as a communications medium cannot be overstated. It has had a profound effect on economic, political, and other social infrastructures, and has introduced ways of communicating which have transformed social relationships. The Internet has opened up information exchange on a global scale, offering enormous opportunities and advantages to an hitherto unknown degree.

The Internet has also raised a number of serious, and urgent, ethical challenges. The discussions and debate surrounding ethical issues such as trust, security and privacy, amongst others, conducted at all levels (international, government, academia and the popular press) in themselves are evidence of the complexity of the problem of Internet ethics.

The research unravels some of the complexity and muddle of Internet ethics, with the objective of providing a foundation for further research. This thesis offers four perspectives on the problems of Internet ethics: technical, conceptual, regulatory and ethical. These different viewpoints are not only useful in drawing out insights concerning the ethical framework of the Internet, they also provide leverage for the analysis of pertinent issues.

The work in this thesis thus offers a framework for understanding, and analysis, which can be developed and used in continuing investigations. The research is a combination of theory and practice - both informing each other. The approach taken arose from the author's direct involvement in many of the expert discussions and debates which (together with the literature), identified a need for foundational work. In-depth work with a number of specialised groups has provided the practical backdrop, and grounding to this research – published results appear as Appendices.

Acknowledgements

My heartfelt thanks go to:

My supervisors, Harold Thimbleby, Matt Jones and Yin Leng Theng, for their combined support and encouragement, and the important individual roles they have played over the last few years.

Steve Torrance, for giving up so much of his time to discuss difficult issues and offer advice.

Sardia Alhassan, for her support and friendship.

My friends and colleagues of IFIP WG9.2 and SIG9.2.2 for their support and encouraging words. Special thanks to Diane Whitehouse for devoting valuable time to reading a lengthy draft.

My Ph.D. colleagues - "brothers in arms". In particular, Serengul Smith, Thomas Tan and Kostas Giannakis for their friendship and humour.

Last, and by no means least, my family - without whom this would not have been possible.

This work is dedicated to my father – ahead of his time in lifelong learning.

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Chapter 1

Introduction to the research area

> *"Over the past 50 years, computers have undergone transformation from monolithic number crunchers, to centralized repositories of management information systems, to distributed, networked, cyberspace support systems. During the same period, uses of computers have moved from computational problems to life support, from machine language to GUI's, from abstractions of work to virtual reality on the World-Wide Web. These transformations have brought with them situations that have ethical implications."*
>
> (Conger and Loch 1995: 30)

1.1 Introduction

The Internet has been in existence for almost 30 years, but it is only in the last decade (since the advent of the World Wide Web and multi-media web browsers) that it has become widely accessible to the public and easy to use. The growth of the Internet has been described as "the most astonishing technological phenomenon of the late twentieth century" (Cairncross 1997: 87).

This research began with the question "Why is the *Internet* provoking such an ethical debate"? In other words, given that we manage our daily lives "ethically" (to a greater or lesser extent), why is ethics proving such a challenge when it comes to the Internet? The issues are many and complex, and combined with the novelty of the digital environment, contribute to a general picture of muddle and confusion as far as Internet ethics is concerned. This thesis answers the above question, and addresses the problem of muddle and confusion, by offering a framework that can be used to unravel some of the complexities. By taking four perspectives the framework sets the issues in different contexts, and in so doing supplies a conceptual tool as a foundation for analysis. That is, it provides a strategy for thinking about the ethical issues currently under discussion (demonstrated in the following chapters), and in that way is an aid to understanding. The framework may be developed further as the Internet itself develops and other issues are raised.

In 1997, at the beginning of the research period, the importance of the Internet as a fast new global communications medium was already evident. Also evident were a large number of concerns regarding matters of ethics, whether of ethical behaviour

on-line (Johnson 1997), ethical use of the Internet (for example, the distribution of pornographic material: *The Economist* 1997) or those involved in the promotion of the technology (as in the marketing practices of Lotus, Kling *et al.* 1996). What was not evident was how to resolve these problems.

The Internet has brought to the forefront issues originally raised in the field of computer ethics (for example the security of personal data) and also generated new debate, highlighting a variety of ethical tensions such as freedom of speech issues versus censorship. Its widespread use makes it an extremely powerful and potent form of communication, and the diverse nature of its user population (in terms of age and culture) has raised concerns surrounding the dissemination of pornographic and racist material. These issues have always been of concern, but prior to the Internet the publication and dissemination of this type of material has been controlled to a certain extent by legal measures. However, these traditional methods of control were more "physically" based and have proved difficult to transfer to the Internet context.

1.2 What is Internet ethics?

Internet ethics is a new and evolving field of enquiry, the scope of which is still unknown. However it is possible to get a flavour of what it incorporates by reference to recent works, which for the sake of clarity can be categorised as micro, macro and meta-level perspectives.

1.2.1 Micro-level

This level refers to particular and specific issues, which supply the *content* of Internet Ethics. As far as this category is concerned, the issues could be many and varied. In fact, according to Hamelink (2000: 33) they are very much the same as those we encounter in daily life:

> "In CyberSpace all those moral issues that confront us in daily realities are again on the agenda. All the immoralities of physical life occur in virtual reality: censorship, lust for power, treason, stalking, lying, gossiping, peeping, stealing, cheating, seducing, breaking promises, insulting, and being unfaithful, unreliable, uncivilised or abusive."

There are however specific issues which dominate the Internet ethics debate, which can be summarised as those picked out by Hamelink (2000), Langford (2000) and Spinello (2000), for particular discussion. These are:

- privacy
- security
- intellectual property

- freedom of speech
- equality of access
- regulation

A similar list is given by The International Federation for Information Processing (IFIP) Special Interest Group 9.2.2 (Framework for Ethics of Computing), who agreed on the following as issues of ethical concern:

> "Privacy (and deriving rights such as right to know about his/her own data); computer crime; intellectual property right, copyright, trademark, patent; free speech, right to information and communication; fight against hatred speech, racism, and against sectarianism; pornographic, illegal, dubious or harmful material; etc."
>
> (Berleur, d'Udekem-Gevers and Rolin 1999: 53)

1.2.2 Macro-level

This level of classification is used by this author to capture a wider notion, which explicitly refers to the human dimension. For example, according to Simon Rogerson (2000), Internet ethics is about behaviour in relation to the Internet. The following extract stresses the importance of personal responsibility for behaviour in using the Internet.

> "The Internet will change society. We must be aware of the potential benefits and dangers and be prepared to challenge any antisocial activity. Therefore, Internet ethics are not optional, they must become a way of virtual life at work and in the home. Only then will we reap the benefits that this amazing technology offers."
>
> (Rogerson: 2000)

Barroso and Weckert (1998: 67) take a similar position concerning moral responsibility, but indicate a broader scope which can be interpreted to incorporate the responsibilities of those who are involved in the creation of the technology that the Internet employs:

> "the Internet cannot be considered apart from the human, ethical and moral context in which it operates, nor from the new and unknown moral responsibilities that it implies".

1.2.3 Meta-level

This is a higher level perspective, abstracted from the individual issues and level of human involvement, which refers to Internet ethics as a field of study. From this

perspective some guidance on a definition might be gained from the closely related field of computer ethics, defined by James Moor (1985: 267) as follows:

> "computer ethics is a dynamic and complex field of study which *considers the relationships among facts, conceptualizations, policies and values* with regard to constantly changing computer technology" (my italics)

It is reasonable to assume that as computer technology underpins the Internet the above definition is still relevant to Internet ethics. Although the Internet adds a new dimension to the concerns originally discussed in the computer ethics literature, the above definition can still apply to the Internet.

A paragraph on the back cover of a recent book specifically addressing Internet Ethics (Langford 2000) announces: "Internet Ethics considers the moral, ethical and legal framework underpinning our use of the Internet and the World Wide Web". It is not made clear whether this description refers to the book, or to the subject matter, although the inference this author draws is that it refers to the book. This is borne out by the absence of any attempt at a definition of Internet ethics within the book content.

A very different view, again referring to computer ethics, but one which could be incorporated within this level is that held by Luciano Floridi (1999b: 38), which is that computer ethics (CE) is itself an ethical theory:

> "[features 1-3] fail to make CE any different from, let alone better than, other ethical theories already available, most notably Consequentialism and Deontologism ..."

He elaborates:

> "CE is primarily an ethics of *being* rather than *conduct* or *becoming* and hence qualifies as non-standard ethics."
>
> (Ibid.: 42)

If computer ethics is an ethical theory, then it is quite likely that Internet ethics may be too.

1.3 The scope of Internet ethics

From the above descriptions we can see that Internet ethics can cover: issues of moral responsibility; aspects of the Internet which may threaten certain rights such as

privacy and freedom of speech; relationships of facts, concepts, values and policies; moral, ethical and legal underpinnings, and it may be an ethical theory.

The scope of Internet ethics then could be summarised as follows:

- any issue of an ethical nature arising from Internet technology
- the responsibilities and obligations of those people involved both in the implementation and use of Internet technologies (i.e. computing professionals, promoters and users)
- the application of ethical theory in the Internet context
- the study of ethical norms in relation to the Internet
- the development of an ethical theory of the Internet
- the relationship between ethics and the Internet

As for *particular* issues relating to the Internet, the following are some ethical issues which have drawn public attention, and which have caused considerable concern:

- easy access to information considered by some to be harmful or offensive (e.g. pornography, racist material, bomb-making recipes)
- breaches of security (e.g. viruses, hacking)
- intellectual property (e.g. copying software, financially free access to recorded music)
- indiscriminate collection and manipulation of personal data (leading to concerns regarding personal privacy)
- the dissemination of sensitive information (e.g. in judicial processes, and in matters of national security)
- the use of strong cryptography (making police surveillance of suspect criminal behaviour impossible)
- regulation of the Internet (whether it should be regulated, and to what extent)
- equality of access to a powerful resource

In more general terms, many of the disputes are over conflicting principles such as freedom of speech and censorship, the right to information versus intellectual property laws, the right to privacy and the rights of law enforcement agencies.

We can see that Internet ethics covers many aspects and issues which are in urgent need of understanding.

1.4 Scope and perspective of this research

Research in the area of Internet ethics is still at an early stage. Whilst some of the issues mentioned above have been a cause for concern for some time (for example the computerised collection of data), other issues (e.g. pornography) have received more recent attention. However, as important as particular issues are, little attention has been paid to the bigger picture. Commenting on the field of computer ethics Steinke and Wong (1998: 171) observe:

> "The field as a whole appears to serve almost exclusively in the role of external critic, focusing on narrow issues such as privacy, intellectual property, and fraud, rather than serving as a crucial voice in such matters as core direction and purposes of the field ... While this is no doubt an important task, *meta-level "big picture" questions also need to be considered* if the field is to increase its influence." (my italics)

Floridi (1999b: 38) makes a similar observation, noting that computer ethics "has consistently adopted a bottom-up procedure", concentrating on individual, and real-world issues "rather than mental experiments". Floridi does not explain his use of the term "mental experiments", however, in view of his philosophical background this author takes it as following the philosophical tradition of using conceptual scenarios.

This research addresses both of the above criticisms by adopting a top-down approach, using real-world examples as an aid to mental experiments with the aim of generating useful insights. (This author uses the term "mental experiments" in the sense of generating hypotheses.) This change in perspective takes the focus off individual issues as central to the investigation, and moves them to a supporting role as evidence of a wider theory of ethical influences. This work is therefore not so much concerned with the individual ethical issues of the Internet, *per se*, (important though they are), it is more concerned with understanding the bigger picture of Internet ethics, and of clarifying the fundamental problems of ethics and the Internet. In this respect this research takes a meta-level perspective (following Steinke and Wong, above). It must also be emphasised that the research takes a culturally western perspective, influenced by the nationality and location of the author (UK). Whilst it is recognised that the Internet is a global communications tool, it is beyond the scope of this, and probably any, research to aim for universal coverage. It should therefore be borne in mind that the examples and discussions throughout this work have a western flavour - which includes a bias towards the consequentialist approach favoured in the United States.

By attempting to understand what it is about the Internet that causes a breakdown in ethics which is not apparent in daily life this work seeks an answer to the question:

What are the factors in the Internet (on-line) context which disrupt the operation of off-line ethics?

Thus the question addresses the final point noted in the previous section "the relationship between ethics and the Internet". The research topic falls into two academic subject areas - moral philosophy and computing science. This research has been conducted from within a computing science context, consequently the focus of the work is on the implications for the behaviour of practitioners and users, as opposed to the implications for philosophy and philosophers.

Four areas of investigation emerged: technology, concepts, regulation and ethics. Technology first and foremost because it underpins the subject under discussion, and it is the technology that differentiates on-line from off-line behaviour. Concepts, regulation and ethics are all areas raised from the literature, although (each differing Chapter 2) in slight respect. As early as 1994, Vint Cerf identified three influences on behaviour:

> "[This paper] makes the assumption that there are only three ways to influence behavior: *technical constraints, legal constraints and moral constraints*. Technology can be used to limit the scope of behavior and where that fails, legal remedies may be sought. Ultimately, appeal may be made to moral principles. In reality, all of these tools are commonly applied to channel behavioral choices." (my italics)
>
> (Cerf 1994)

Section 1.2.3. noted that Duncan Langford's book *Internet Ethics* (2000) takes three aspects - moral, ethical and legal - to provide a focus for discussion.

Others have used similar multi-dimensional approaches to aid analysis. For example, in the IFIP SIG9.2.2 initiative "Ethics and the Governance of the Internet" (Berleur, Duquenoy and Whitehouse 1999) three regulatory constraints (technical, law, self-regulation) were used to assist in bringing to light ethical issues. These perspectives were not,

> "looking at what *could be* done, but at *what is done* through those different instruments, trying to enlighten which are the ethical issues..."
>
> (Berleur, d'Udekem-Gevers and Rolin 1999: 38).

Lawrence Lessig (1999) notes four constraints on behaviour: market, architecture, law and norms. The latter three categories closely match the areas identified for investigation in this work, as Table 1 (below) shows.

Table 1: showing the relationship between "contraints on behaviour" (1999: 88) and "influences on ethical thinking" (this thesis).

Constraints on behaviour identified by Lessig		Influences on ethical thinking identified in this thesis
• Market		• Concepts
• Architecture	relates to:	• Technical
• Law	relates to:	• Regulation
• Norms	relate to:	• Ethics

Whereas Lessig is focussing on control mechanisms which will ultimately allow or not allow certain behaviours, the aim of this research is to find out about ethical "influences". Therefore "market" is exchanged for "concepts" as James Moor's classic work (1985) suggested that perceptions are relevant in ethical understanding. Also Lessig's four choices of action-determinants are all external influences. This work incorporates one internal/subjective influence thereby acknowledging the relationship between autonomous individuals and their actions.

The four categories outlined above offer an additional benefit, apart from their natural fit with the problem areas identified in the literature review. Each of the four perspectives have particular features which can be used as aids to analysis, for example, technological responses to some of the problems clearly indicate the tight relationship between ethics and technology. In this sense, sections of those four chapters are used as conceptual tools, or "probes" as described in Thimbleby (1999).

1.5 The need for clear foundations

Computer ethics (which provides the foundation for Internet ethics) is still at an early stage of development, and as a discipline prey to "conceptual muddles" (Gotterbarn and Rogerson 1997), leading to "significant confusions and dangerous conclusions" with a "surprising lacuna in its literature" (Gotterbarn 1995). Siponen and Kajava (1998: 673) note "computer ethics comprises a relatively undisciplined and disunited field of study".

It is not surprising these confusions exist, new disciplines take time to develop and in their early stages gather new ideas from a range of perspectives. In such a diverse

environment it is important to stop and check the foundations, to provide a firm base for further work. As John Ladd (1997: 12) has suggested:

> "We need to delve more deeply into some of the *underlying problems* that the development of computers has made more apparent and has rendered more acute" (my italics)

Computer ethics (and Internet ethics) do not stand alone in their confusion, other sub-disciplines of Computer Science experience similar difficulties of inconsistencies, lack of established research methodologies and theory. For example, in explaining the fragmented state of software development theory and practice, Wernich and Winder (1997: 117-129) draw an analogy between the relatively new field of Software Engineering and Kuhn's (1970) model of pre-scientific disciplines. According to Kuhn in the pre-science stage those engaged in the discipline:

- disagree over the nature of the phenomena with which they are dealing and how to interpret their observations (Ibid.: 17)
- are unable to agree on key concepts and therefore talk at cross purposes (Ibid.: 198)
- each have their own disciplinary matrices (Kuhn 1977), including different metaphysical bases and separate sets of exemplars which each of their theories do most to explain (Kuhn 1970: 12-13)

The above points could equally apply to the field of computer ethics (and by extension to Internet ethics).

It is sometimes argued that Computer Science is not strictly a scientific discipline. Wernich and Winder anticipate this criticism by drawing on Chalmers (1982: 108-9, quoting Kuhn 1970) who points out:

> "However, disciplines may exist which, although they are not labelled as 'sciences' by society, nonetheless conform to the 'science' model ... [Kuhn] himself noted in the postscript to the second edition of his major work that the concepts which he had introduced might be applicable to other types of discipline (Kuhn 1970: 209)"
>
> (Wernich and Winder 1997: 121-2)

There have been, and probably will continue to be, muddles and confusion in the research domain of the Internet. The following chapter discusses the conceptual muddles mentioned at the beginning of this section, which are to do with the

uniqueness of computer ethics, and whether the ethical issues raised by computer technology are new issues and warrant a new ethics.

It is hoped that the work undertaken here will go some way to unravelling some of the confusions, by "delving more deeply" into some of the "underlying problems". To do this the four categories - technology, concepts, regulation and ethics – are, in a sense, opened up with the aim of generating insights. The work presented here represents the insights of this author – it is also hoped that this thesis will stimulate further ideas for others.

1.6 The initial stages

At the beginning of the research period it was not clear quite how to approach this topic. The absence of literature specifically addressing Internet ethics prompted a policy of "going out into the field" - in this case attending a variety of meetings and discussions held by concerned academics, representatives of the commercial world, consumer protection groups, and other experts.

As the research progressed opportunities arose to take a more active role in the field, leading to a particular involvement with two working groups and a seminar series attempting to address some of the difficult issues being raised. The groups are: International Federation for Information Processing Working Group 9.2 (Social Accountability) and Special Interest Group 9.2.2 (Framework on Ethics), EURIM (European Informatics Market) Working Group on Network Governance. The seminar series was an ESRC (Economic Research Council) sponsored event spanning two years and organised by The Center for Computing and Social Responsibility at De Montfort University, Leicester: "Social Responsibility in the Information Age".

Involvement with these working groups has provided both the "backdrop" and grounding to this research. In particular, IFIP WG9.2 and SIG9.2.2 have provided an international context to problems which are international in nature, and in all cases the meetings have grounded the discussions in *real* issues of *real* concern to many people. Most importantly perhaps, there have been concrete outcomes to the work undertaken. The author has, throughout the research period, taken a highly active part in many aspects of the work undertaken by the groups, resulting in a number of publications of professional interest. These publications are included in the appendices of this thesis, and submitted here as part of the contribution to knowledge offered by this research (Appendix A: 1,2 and 3).

Attendance at the above meetings highlighted certain conceptual difficulties (particularly in the early stages of the research period) relating familiar ideas to the new "digital" domain. Typical examples being e-mail (analogous to sending a letter), and aspects of e-commerce (modelled on mail-order shopping). These observations appeared to confirm the suggestion by James Moor of "conceptual muddles" (discussed in Chapter 2), which together inspired Chapter 5 (the impact of concepts).

Thus this research initially followed an exploratory (and necessarily unstructured) approach, which developed into active participation and led to the beginnings of a framework for understanding - an approach supported by Terry Winograd and IFIP SIG9.2.2:

> "a key component of moral action is the development of understanding within a social background, which is what provides the relevant field of choice for individuals."
>
> (Winograd 1995: 29)

> "we have to *create* an ethical community ... Social dialogue, cultural dialogue, and social responsibility are not only important words: they must be in the forefront of our action to create human networks in the age of globalization."
>
> (Berleur, d'Udekem-Gevers and Rolin 1999: 53)

1.7 Aims of the research

The primary aim of this research is to identify and understand the reasons behind the ethical challenges of the Internet. The novelty and complexity of the Internet is mirrored in the literature and numerous discussions taking place. The result is a confusing picture of the source of the ethical difficulties, and consequently the means to their resolution. This research attempts to unravel some of the complexity by following a reductionist strategy, that is, to investigate separately four perspectives of the Internet (technical, conceptual, regulatory and ethical) and provide a synthesis of the ideas and insights which have emerged.

By viewing the Internet as a complex system which incorporates technology *and* people, aspects of both are relevant to the problem. Whether the resolution of the difficulties lies within the technological domain, with the users, or both, may be easier to see by separating out these different aspects.

This "back to basics" approach aims to give insights into the relationships between the different approaches currently employed to overcome the difficulties (for example adapting concepts, applying regulation), and to determine the influences affecting the future shape of the Internet. For example, Deborah Johnson (1999)

notes how policy makers determined to a certain extent the concept of computer software, making it fit into an existing legal structure.

By showing the influences at work in an evolving situation, and the importance of those influences on policy and the future shape of the Internet, this thesis looks at the subtleties behind the emergence of an *ethical infrastructure*. In the terms of this thesis an ethical infrastructure consists of those elements which together provide an ethical context, or environment – in other words the elements that influence ethical behaviour. The formation of this ethical infrastructure includes the background initiatives and dynamics of public and private discussion feeding into policy and technology.

1.8 Objectives of the research

The objectives of this research are:

- To present a clear foundation of the factors behind the confusion of Internet ethics thus providing a base for further work
- To provide a clearer understanding of the range of elements at work, and their impact in a broader sense
- To present four perspectives from which to view Internet ethics
- To make explicit the interrelations of human and technical factors
- To introduce the notion of an ethical infrastructure
- To emphasise the role of discourse as an aid to ethical understanding

1.9 Contribution of the research

This research offers a contribution to the field in several ways. Addressing the uniqueness claim from computer ethics identified problems (with concepts and ethics) and confusions, which this research has attempted to clarify. The four perspectives taken in this work, as well as providing a strategy for clear thinking, in combination give a holistic view of the factors involved in Internet ethics. In taking this approach this research thus offers a methodology for constructive thinking, (conceptual probes), and at the same time emphasises the benefits which can be gained from adopting different perspectives.

This work also makes explicit the interaction of working groups, pressure groups, and others; and their influence on the decisions which will shape the Internet in the future. By active engagement in the processes of deliberation the author of this research has made a contribution to the field as part of the process of shaping an emergent discipline. The meetings attended, and discussions within those meetings, can be viewed as experimental work which have formed (and are still forming)

policy. In other words, and in research terms, this participation makes a contribution to the discipline by way of reflective practice. In addition, the publications summarising the results of group deliberations, and position statements on topics of particular concern (all publicly available), provide concrete and long-term contributions.

By raising the profile of discourse as an aid to reaching understanding and overcoming some of the difficulties within the field, this research has attempted to show the fundamental importance of discourse in an evolving, complex domain. In addition, and as a result of the insights gained in this respect, this work draws attention to an existing theory of discourse ethics which may be helpful in the Internet context.

Finally, the research provides a documentation of the ethical impact of the Internet, and the difficulties encountered during the formative years of a technology heralded as "the most astonishing technological phenomenon of the late twentieth century" (Cairncross 1997: 87). Aside from the historic value of a "snapshot" of a time of influential social change, this thesis can be used as a useful resource for further work in the field.

1.10 Thesis Structure

Chapter 2 gives the background to the research area bringing forward ideas from the field of computer ethics which have been a dominant influence on the approach taken to this research.

Chapter 3 sets out the methodology employed and the rationale behind the choice of method.

The following four chapters take in turn the different aspects of the area; namely technological, conceptual, regulatory and ethical. Each of these chapters follow a similar structure:

(i) setting out the difficulties falling within that domain
(ii) explaining the influence on the ethical "picture" of the Internet
(iii) identifying examples of some of the problems
(iv) proposing an approach for improvement based on the foregoing.

Each of the four chapters also have publications associated with them which are reproduced in Appendix B. They relate to the chapters as follows:

Chapter 4:	Technology	"Justice and Design", Duquenoy and Thimbleby 1999.
Chapter 5:	Concepts	"Changing concepts: changing ethics?", Duquenoy 2000a.
Chapter 6:	Regulation	*Ethics and the Governance of the Internet*, Berleur, Duquenoy and Whitehouse 1999. "The process of ethics", Duquenoy and Whitehouse 2000.
Chapter 7:	Ethics	"Towards a synthesis of Discourse Ethics and Internet Regulation", Duquenoy, Thimbleby and Torrance 1999. "The Internet and Discourse Ethics", Duquenoy 2000b.

The final chapter (summary, conclusions and further work) brings the four aspects together and discusses the relationships between them, showing the importance of their interaction in the decisions and outcomes affecting the future of ethics on the Internet. This final chapter takes up the insights gained from the work presented here and presents some proposals for further work.

Note on references: wherever possible page numbers are given with references, where page numbers are not given it is because there are no page numbers available (in the case of articles on the World Wide Web, or on CD-ROM, as for example the Ethicomp'99 Proceedings).

1.11 Terminology

Before going too much further it may be useful to clarify the terminology used throughout this work. At the heart of the research question is a distinction between the Internet environment and the non-Internet environment. This may seem obvious. However, as one of the aims of this thesis is to provide a clear understanding, it is worth taking a few moments to explain some terms as they are used here.

"The Internet" is taken to encompass the facility of the World Wide Web (which is the common usage), and not simply the original Internet of government research days. The Internet as described in this thesis also incorporates the notion of "cyberspace", which is commonly understood to be the place where interaction happens. The non-internet environment is often referred to as "real world", but this carries the implication that what occurs around the Internet is not "real". The preference in this thesis is for the terms "on-line" and "off-line" to denote the distinction. These terms could themselves be criticised, as strictly speaking it is not

necessary to be "on-line" for some events to happen (for example storing data, hosting "cookies", and virus damage). However, rather than getting too deeply enmeshed in the subtleties of language, the terms above should be sufficiently clear for the purposes of this work.

During the course of this research the idea of an "ethical infrastructure" emerged. It seemed to this author that in the off-line world an environment was established which provided the infrastructure for ethical practice, and that this infrastructure was lacking in the Internet environment. As explained in Section 1.7, in this thesis ethical infrastructure consists of those elements which together provide an ethical context, or environment (most obviously perhaps, legislation, but also including conceptual understanding).

1.12 Summary

This then is the context of the research undertaken here - a meta-level view of the Internet as a global communications technology which some believe is so radically different that it challenges the norms of ethical behaviour.

> "At one extreme are those who believe that ethics cannot be about technology because it is about moral norms and concepts and since these apply to human beings, technology is irrelevant. At the other extreme are those who believe that technology, and especially information and communications technologies, are changing the world in such profound ways that the ethical issues they raise are unique and have moved us into unchartered moral territories."
>
> (Editorial, *Ethics and Information Technology*, **1** 1-3, 1999.)

The Internet is an exciting new technology, and inspires a great deal of creative thinking. It can be easy within such an environment to get carried along with the tide of innovation, or alternatively view the projected changes with deep misgivings. Within this atmosphere of extremes it can be useful from time to time to pause and take stock of the situation. This research sets itself this task by looking beneath the hype and the opposing dismal prophecies to gain a more balanced view of "where we are now" with Internet ethics, and takes up the invitation posited by Luciano Floridi (1999b):

> "Behind CE's foundationalist problem there lies a lack of a strong theoretical programme. ICT [Information Communiction Technology], by transforming in a profound way the context in which some old ethical issues arise, not only adds interesting new dimensions to old problems, but *seems to invite us to rethink,*

> *methodologically, the very grounds on which some of our ethical positions are based.*"
> (my italics)

This chapter has introduced a number of areas of concern within the domain of Internet ethics and began with the question: Why is the Internet such an object of ethical controversy?

We could ask further:

- Is it that the issues are new and do not easily fit with traditional ethical theory?
- Do we need a new ethics?
- Is it that we find some issues are a "conceptual muddle"?
- Are the problems simply to do with regulation?
- Should we even be thinking about ethics and technology? Surely its not the technology that is the problem, its the people who use it.

These are some of the key questions raised within the field, and which this research addresses.

Chapter 2

Literature Review

> *"Why ethics and information technology when we did not seem to need a new journal or field of study for automobile, microwave, laser, washing machine, or telephone ethics? These questions all seem to call for an account of information technology ethics that explains not just why attention should be given to the topic but what is special about information technology ... We believe there is a serious gap in what is currently available"*
>
> (Editorial: *Ethics and Information Technology*, **1**:1, 1999.)

2.1 Introduction

The above quotation, written only relatively recently, reflects the puzzling nature of the relationship between Information Technology (IT) and ethics and goes to the heart of the research question stated in Chapter 1: Why the Internet and ethics? The Editors also point to the lack of publication outlets dedicated to this field.

When this research began in 1997 there was little in the way of specific literature addressing Internet ethics, consequently this research has drawn heavily on the field of computer ethics which had its origins in the United States some fifteen years ago and has been gathering strength ever since.

This chapter gives some background to the debates and discussions from the field of computer ethics, with the aim of showing how ideas from that field have influenced the direction of the research. It is not the intention in this chapter to cover the whole range of literature in the area of Internet ethics, it is rather to set the scene of how this research began, and was inspired. The broader literature relevant to the thesis is referred to throughout chapters 4-7, where it directly relates to the topics under discussion.

2.2 Computers and ethics

The debate regarding the relevance of ethics to the computing science profession can be traced back to 1985. Earlier concerns regarding the human consequences of technology had been expressed by Weiner (1960), and Weizenbaum (1976), but James Moor's celebrated essay "What is computer ethics?" (1985) provided a launching pad for computer ethics, and became central to discussions for the next ten years. Much of what Moor says in this essay is still unresolved and as relevant today

as it was in 1985. For this reason, and because the essay is so important within the computer ethics field, it is worth taking some time to summarize the main points.

Moor's opening sentence declares: "Computers are special technology and they raise some special ethical issues" (Ibid: 266). According to Moor their "specialness" derives from the fact that computers are "logically malleable":

> "What is revolutionary about computer is *logical malleability*. Computers are logically malleable in that they can be shaped and molded (sic) to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations ... The logic of computers can be massaged and shaped in endless ways through changes in hardware and software."
>
> (Ibid. 269)

In other words, whatever can be expressed logically can, in principle, be expressed by a computer. Whilst this will not necessarily be a startling revelation to computer professionals it does carry certain implications. For instance, "they can be shaped and molded (sic) to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations" (Ibid: 269). As this author understands it, the warning Moor tries to convey is the danger of perceiving computers purely as "number crunchers" - he maintains they are more than that, they have a syntactic and semantic dimension, i.e. a variety of possible states and operations, which can be taken to represent anything. In simple terms, logical programming can find expression in a variety of meaningful ways - one has only to think of the range of computer-facilitated tools and accessories (from calculations to the latest graphically-enhanced computer games) to appreciate the difference between a programme and its expression. Walter Maner (1996: 145) gives this explanation: "Elevators can only do elevator-like things, but computers can do anything we can describe in terms of input, process, and output". Moor (1985: 269) summarises the essence of logical malleability: "the limits of computers are largely the limits of our own creativity" (Ibid: 269).

It is not necessarily that "representation" in itself is ethically demanding, what does provide ethical difficulties, according to Moor, are the new situations which create a "conceptual muddle" (Ibid: 266). The example he gives to illustrate this conceptual muddle is of computer programmes:

> "Let's suppose we are trying to formulate a policy for protecting computer programs. Initially, the idea may seem clear enough. We are looking for a policy for protecting a kind of intellectual property. But then a number of questions which do not have obvious

answers emerge. What is a computer program? Is it really intellectual property which can be owned or is it more like an idea, an algorithm, which is not owned by anybody? If a computer program is intellectual property, is it an *expression* of an idea that is owned (traditionally protectable by copyright) or is it a *process* that is owned (traditionally protectable by patent)? Is a machine-readable program a copy of a human-readable program? Clearly, we need a conceptualization of the nature of a computer program in order to answer these kinds of questions."

(Ibid.: 266-7)

In essence then, computers provide us with new capabilities and these in turn give us new choices for action. According to Moor what we are lacking are adequate concepts (that is, a clear explanatory picture). Not only that, but the lack of a clear understanding makes it difficult to apply familiar policies and guidelines, leaving us with a "policy vacuum". In other words, we have no rules to fall back on to guide us when faced with an ethical dilemma. Moor later describes policies as "rules of conduct ranging from formal laws to informal, implicit guidelines for action" (1999: 65).

2.3 Computer ethics and the "uniqueness" claim

Moor's essay provided a framework for academic thought in computer ethics. His claim that "computers are special technology" prompted an intellectual enquiry into the "uniqueness" of computers and computer ethics. The resulting views offered a diverse picture of the relationship between computers and ethical theory - some to a radical degree.

This section attempts a clarification of the uniqueness claim, and the variety of opinions held regarding the claim. Deborah Johnson (1999) sums up the debate:

> "The controversy has focused especially on whether the ethical issues surrounding computer technology are unique. Are the issues really different in the sense that they require development of a "new ethics"? Or are computer-ethical issues simply old ethical issues in a new guise?"

Johnson's own view is that the issues are a "new species of traditional moral issues". She believes that they involve familiar moral ideas (e.g. privacy, harm, responsibility) which can be classified into traditional ethical categories. However, the presence of computer technology gives the issues a new twist which makes it difficult to draw on "traditional moral concepts and norms". In other words, the ethical issues are the same, but the way the situations are presented are new.

In opposition to this view is one presented by John Ladd (1991: 664) who believes that the ethical problems are a "new sort that require considerable restructuring of our traditional ethical categories", for example "the traditional concept of privacy itself ... has no application in the modern world of computer technology ...". He reiterates this view in a later article (1997:12) where he tells us that "the computer world presents us with a new set of problems that make many traditional concepts inapplicable and obsolete". Under a heading of "New technology and new ethics" he refers to the changing nature of moral practices brought about by "radically new technology". It appears that the new ethics alluded to by Ladd are the changes he foresees in traditional practices and values, arguing that the notion of privacy may well be irrelevant in the case of computerised information. As traditional practices become outdated we are left with a "moral vacuum" until new ones are established.

Another advocate of this view is Walter Maner (1996, 1999) who claims that we are forced to "discover new moral values, formulate new moral principles, develop new policies, and find new ways to think".

Venturing further along the "new ethics" line Krystyna Gorniak-Kocikowska (1996) takes the position that traditional ethical theories (such as consequentialism and Kantian ethics) are not appropriate in the Internet context, based as they are on a western perspective. She makes a very good case for the emergence of a new ethics, by drawing a parallel between the introduction of the printing press and its consequent social changes which set the scene for the theories of Bentham (consequentialism) and Kant.

> "These ethical theories were based on a concept of the human being as an independent individual capable of making rational judgments and decisions, freely entering the social contract. Such a concept of the human being was able to emerge in great part because of the wide accessibility of the printed text."
>
> (Gorniak-Kocikowska 1996: 182)

The global reach of the Internet will, in Kocikowska's view, stimulate a global ethics as Western ethics becomes inappropriate: "Despite their claims to universalism, Kant's as well as Bentham's concept of human being refers to European man, free and educated enough to make rational decisions" (Ibid.:183). However, this is not to say we can expect to see a new ethics in the short term - not necessarily even in our lifetime, but "just as the major ethical theories of Bentham and Kant were developed in response to the printing press revolution, so a new ethical theory is likely to emerge from computer ethics in response to the computer revolution" (Ibid.:177).

Luciano Floridi (1998) believes that "CE offers an extraordinary theoretical opportunity for the elaboration of a new ethical perspective", noting that "standard ethical theories cannot easily be adapted to deal with CE problems, which appear to strain their conceptual resources" (Floridi 1999b: 37).

These latter positions appeal for some sort of new ethics, either in the form of restructing ethical categories, or thinking about new moral values, new moral principles, a new ethics to deal with global communication and interaction, or a new ethical perspective. Some theorists from the computer ethics field have responded in part by advancing new approaches (covered in Section 2.5).

Thus we see that the initial problem suggested by Moor, that of conceptual muddle leading to a policy vacuum, has changed to a problem with ethics (Maner, Ladd, Gorniak, Floridi). That is, from being fundamentally a problem of human *understanding* in a new conceptual environment, the problem has become one of out-dated ethical values and principles. As this author understands it these two positions have very different implications:

- If the problems encountered by computer ethics are caused by *conceptual difficulties* leading to policy vacuums, the resolution of the problem appears to lie in conceptual re-adjustment. Having achieved adequate concepts, policies can be put in place.
- If the problems are due to an inadequacy in *traditional ethics*, the resolution lies in formulating a new ethics (e.g. new values, new moral principles).

2.4 Confusions and "muddle"

Ironically, the uniqueness issue appears to have, in turn, generated another "conceptual muddle" (Gotterbarn and Rogerson 1997).

> "This muddle has led to multiple views of computer ethics which appear to be inconsistent and in fact this muddle has contributed to some claims which are counter productive for the discipline."

The confusion appears to rest on what is referred to as "unique". Some authors are claiming that "*computer ethics* is unique", implying that it is the discipline itself which is unique and warrants attention (for example Moor, 1985). Others refer to the *issues* raised by the use of computer technology (Maner 1999), and still others who think that the *situations* are unique - or in Deborah Johnson's words "new circumstances for human action" (Johnson 1999).

Suggestions for the resolution of these difficulties can be categorised as either: a conceptual approach (analysis, new concepts, categories, definitions) (Ladd, Gotterbarn); or, more radically, a new ethics - replacing traditional norms, discovering new moral values and principles (Ladd, Maner, Floridi, Gorniak-Kocikowska).

When all is said and done, there are evidently difficulties with ethics and computing technology. Does it matter whether the problems are new or unique? Don Gotterbarn (1995: 20-21) believes it does, at least in the sense of the claims that are being made.

> "The inference from the newness claim is that we cannot make ethical decisions in computer ethics because we have not yet found a primary ethical principle. The uniqueness claim is even more dangerous. It leads one to think that not only are the ethical standards undiscovered, but the model of ethical reasoning itself is yet to be discovered"

Gotterbarn maintains that computer ethics is not unique and that the issues can be dealt with using the ethical approaches already at our disposal:

> "I maintain that computer ethics is not unique; the ethical issues ... are either subsumable under the issues of general ethics or they are a type of professional ethics."
>
> (Ibid.)

The following extract, from the same article by Gotterbarn, shows his concern about this issue - which he considers "significant" and "dangerous". He also draws attention to a gap in the literature.

> "These confusions about computer ethics and the absence of a discussion about a concept of it have led to some significant confusions and dangerous conclusions. There is also a surprising lacuna in its literature."
>
> (Ibid.)

Some may argue that discussions on the subject of whether computer ethics, or the issues, are unique are irrelevant. They might argue that there are problems arising from the use of this technology which urgently need addressing, and a more practical approach in resolving the problems should take priority. However, in defense of the above discussion, conceptual clarification is fundamental in bringing to light the nature of the problem to be resolved. As Don Gotterbarn (Ibid.: 18) states at the beginning of his article:

> "Starting from a clouded concept of computer ethics, one cannot derive clear ethical positions."

2.5 Approaches in ethical theory

Some theorists within the computer ethics field have responded to the call for a new ethical approach, tackling the problem in different ways (elaborated more fully below). Jeroen Van den Hoven (1997) opts for a reflective approach originally articulated by John Rawls (1972). Bernard Gert (1999) formulates a new ethical theory based on "common morality" which James Moor (1999) builds on, and Luciano Floridi (1999b) takes a completely different perspective by offering a new theory of "Information Ethics".

Jeroen Van den Hoven (1997) notes the growing concern for methodology in computer ethics and advocates an approach referred to as the "Method of Wide Reflective Equilibrium" (WRE) originally articulated by John Rawls. According to Van den Hoven the advantages of this method are that it avoids the problems encountered by a generalist approach (applying abstract principles), and those of the particularist approach (dealing with individual cases). That is, it bridges the gap between theory and practice. The method itself is one of

> "shuttling back and forth between considered moral judgments about a case and our moral principles, adjusting each in the light of the other and in the light of relevant background theories, in order to arrive at reflective equilibrium"
>
> (Ibid.: 243).

As a practical example he invokes the privacy issue, pointing to data protection laws in the Netherlands (in particular regarding informed consent) which have caused problems at an institutional level. In the field of health care it is sometimes either impractical (due to the numbers involved) or inadvisable (because of causing alarm) to contact individuals for permission to use data. In the case cited, officials knowingly transgressed the law of informed consent in favour of "societal interest". Thus he concludes that the original concerns regarding computerised data prompted a legal over-reaction which excluded societal interests. With hindsight, account should have been taken of societal interests and provision made in legislation for such research. This process of reflection and adjustment, he believes, is the best way (within the field of computer ethics) to achieve a balance between interests, whilst keeping in mind the principles to be upheld.

Bernard Gert (1999) suggests that "common morality" can be helpful in "understanding, and sometimes even resolving, some of the controversial moral

problems that are arising in the field of computing". The foundation of Gert's approach rests on the notion that many moral problems are entirely uncontroversial, and despite some disagreement on certain issues, on the whole, people do have a common morality and do in fact agree in many cases. He tells us that his account "provides a common framework on which all disputing parties can agree".

> "The moral system provides a method for distinguishing between morally acceptable answers and morally unacceptable answers; that there is not always agreement on the best solution does not mean that there is not general agreement on the boundaries of what is morally acceptable."
>
> (Gert 1999: 57)

Gert takes the view that there are some moral rules which would be supported by any impartial, rational person. These he calls "justified moral rules", such as "Do not cause harm or increase the probability of harm being suffered". He lists ten rules (all prohibitive) which "all have justified exceptions". Examples of the rules are: Do not kill, do not cause pain, do not disable, do not deprive of freedom. The moral problem, Gert asserts, is determining which exceptions are justified. Disagreements may turn on what counts as an adequate justification, but he claims that "what counts as an adequate justification for one person must be an adequate justification for anyone else in the same situation". There may be stronger and weaker justifications:

> "Everyone is always to obey a moral rule except when a fully informed rational person can publicly allow violating it. If all fully informed rational persons publicly allow the violation, it is strongly justified. If fully informed rational persons disagree about whether to publicly allow the violation, it is weakly justified."
>
> (Ibid.: 60)

To give some grounding to his theory, Gert compares his moral system with those of Kant (1785) and John Stuart Mill (1859). He gives the example that whereas the Kantian system rules out ever making lying promises, the moral system allows us to make "lying promises" in some circumstances. He says the consequentialist system is concerned only with the foreseeable consequences of the particular violation, not with the foreseeable consequences of that kind of violation being publicly allowed (which his theory addresses).

> "Morality also differs from the systems of both Kant and Mill in that it does not require all moral questions to have unique answers, but explicitly allows for a limited area of disagreement among equally informed impartial rational persons."
>
> (Ibid: 64)

James Moor (1999) applies the above ideas to policies rather than particular issues (addressed by Gert). Moor uses the term policy in the sense of "rules" - that is, when we lay down a policy for acting we are setting out rules, or guidelines. Just as Gert's theory allows for flexibility in deciding priorities of goods or harms, so do policies allow a degree of flexibility. Moor's paper "Just consequentialism" combines the idea of justice (i.e. an impartial point of view) with consequentialism. Moor suggests that when new policies are introduced (as they are bound to be, if his notion of a policy vacuum is correct), ethical considerations need to be attended to. Using the idea of "Just Consequentialism" we can ask ourselves what the best outcomes of a certain policy are likely to be for *all concerned* (in the long term as well as the short term), taking into account possible collateral damage. In other words, copying software for an undergraduate colleague who could not otherwise afford it (an example given by Helen Nissenbaum, 1995, and used by Moor), although beneficial to the student and argued by Nissenbaum as morally good in consequentialist terms, turns out to be morally wrong from a just consequentialist point of view. Applying the impartiality principle infers that not only would copying software be allowable in all cases, but also, in terms of collateral damage, that violating any law is allowable. Moor argues that this would be too big a risk for any rational, impartial person to condone.

The approaches described above are either implementations of existing theories (in the case of Van den Hoven's Wide Reflective Equilibrium) or subtle adaptations of existing theories (Gert and Moor). The last theoretical contribution is from Luciano Floridi (1999b), who offers a radically new approach with his theory of Information Ethics.

Along with Van den Hoven, Luciano Floridi (1999b) also notes the methodological problem of computer ethics. His answer to the problem is to take an entirely new perspective which treats computer ethics as an ethical theory in its own right. He sets out to develop a theory based on the "good" of an "information entity and the infosphere in general". He offers this theory as a "valuable perspective from which to approach, with insight and adequate discernment, not only moral problems in CE, but also the whole range of conceptual and moral phenomena that form the ethical discourse." Floridi argues that ethical discussions within the field of computer ethics are not acually based on the rights and wrongs of an action, but are instead concerned with what is "better or worse for the infosphere". That is, information plays the central role, and not the actors as is the case with other ethical theories. Floridi considers his theory of Information Ethics to be similar to environmental ethics, where the object of concern is the environment. Although these theories change their focus from persons (as direct beneficiaries) to the environment (either natural or

digital) in both cases there is an underlying assumption that persons will ultimately benefit from their potentially improved habitat.

2.6 The basis of the research

This initial literature survey sets the scene for this research in two ways.

Firstly, the confusion concerning the source of the difficulties in computer ethics, whether a *conceptual problem* or an *ethical problem*, prompted further investigation. The claims regarding conceptual muddle and ethical theory are as applicable to the Internet as they are to computer ethics. If computers create unique ethical situations, and pose difficult ethical questions, the Internet (which is based upon computer technology) will inherit some of these characteristics. In the absence of an established research base specifically addressing Internet ethics these two positions provided a starting point.

Secondly, taking the idea of concepts and ethical theory separately provided the beginnings of a framework for the investigation. In such a new area of enquiry there is no paradigmatic method of approach, and in the absence of guidance from the computer ethics field some structured approach was sought. (A discussion of the research method is given in the following chapter.)

The view that conceptual difficulties are behind the problem is explored in Chapter 5. The consequence of "conceptual muddle", in Moor's opinion, leads to policy vacuums which need to be filled:

> "computers provide us with new capabilities and these in turn give us new choices for action. Often, either no policies for conduct in these situations exist or existing policies seem inadequate. A central task of computer ethics is to determine what we should do in such cases, i.e., to formulate policies to guide our actions."
>
> (Moor 1985: 266)

Chapter 6 (Regulation) looks at ways in which the policy vacuums are being filled.

It should be noted that at the beginning of the research period there was very little on offer with regard to ethical theory other than the work of Jeroen Van den Hoven (1997). The theories promoted by Gert, Moor and Floridi appeared at a later stage (1999). The initial literature review identified this gap and, taken with the claim that traditional ethical theory was proving inadequate, prompted an investigation into alternative approaches to ethical resolution. The claim for a new ethics is a radical one. Similarly, observations that traditional ethical theory is not helpful warrants an

enquiry. If indeed the Internet requires a new ethical theory, then the term "Internet Revolution" which is commonly, and somewhat casually used by the media, gains increased significance. Chapter 7 discusses aspects of ethical theory with regard to this research.

2.7 Conclusion

In summary, this research has had to draw heavily on the literature and perspectives of computer ethics as a starting point. The focus of early debate in computer ethics surrounded the question of "uniqueness" which had been attributed to computer ethics by James Moor (1985). As well as providing background to the research area, this chapter has attempted to clarify the muddle surrounding the "uniqueness" issue, and has shown a range of opinion on what exactly is unique regarding computers and ethics. The causes of the ethical difficulties raised by computers are, according to experts, either conceptual problems, or inadequate ethical theory. James Moor suggested that computers leave us with "policy vacuums". This research picks up on these suggestions and further investigates the roles played by concepts and policy formation (i.e. regulation), and inadequate ethical theory.

This chapter has also given the context of the research domain, that is, the Internet and Internet ethics as a new area of enquiry.

Chapter 3

Method

"This is not a field where one learns by living in libraries. I have learned everything I know from the conversations I have had, or watched, with an extraordinary community of academics and activists, who have been struggling over the last five years both to understand what cyberspace is and to make it better."

(Lessig 1999: Preface.)

3.1 Introduction

The above quotation by Lawrence Lessig captures beautifully the spirit of the research domain of the Internet. The types of activities the Internet makes possible, although in many cases replications of activities we are used to (communications, publishing, broadcasting), are carried out in subtly new ways giving rise to a complexity of issues that are not easily understood. Simply getting to grips with what is "going on" has been one of the main occupations of the community of investigators and policy makers in this field over the last few years.

This research has been pursued in much the same way as described by Lessig. It has followed a combined strategy of immersion and participation in the field, and reflection on observations from the discussions and the processes of "ethical" problem solving.

This chapter explains the rationale behind the methods employed.

3.2 Influences on methodology

The domain in which this research takes place has to a great extent determined the methodology employed. The factors which have a bearing on the methodology are:

- a new research area
- rapid development (technical, political, commercial and social)
- the research question and purpose of the research

3.2.1 A new area

The Internet, although in use since the early 1980's, has only attracted interest at an ethical level in recent years. Consequently academic literature specifically addressing this subject is sparse. The first journal papers specifically addressing Internet Ethics

appeared in February 1997, in a special issue of Internet Ethics (produced by the Australian Computer Journal), and it was only recently that the first books on the subject appeared (namely, Langford 2000, Spinello 2000, and Hamelink 2000).

The previous chapter explained the background to the research - drawn from the field of Computer Ethics. As an area of research computer ethics and Internet ethics are still in the developmental stage. In addition the field of enquiry covers a broad spectrum of approaches: broad issues such as regulation, universal access, professional responsibility, privacy, education amongst others, through to particular issues relating to technical matters (e.g. the ethical aspects of software (Gevers 1998) and software applications as an aid to ethical decision making (Maner 1998)). The range of research strategies is equally varied, but with a tendency toward descriptive research (Wong and Steinke 1998, Brey 1999).

3.2.2 Rapid development (technical, political, commercial and social)

The fast pace of technological change, the increased impact of the Internet in a social context (aided by the enormous take-up of Internet access in developed countries), and the commercial promise of the Internet, have all combined to give a sense of urgency not only to the ethical debate but also to find solutions to the concerns of users. E-commerce in particular has been the driving force behind government initiatives to build trust (e.g. Department of Trade and Industry, 1998; UNESCO Infoethics Conference, 1997) and provide a secure trading environment. The tensions between providing a secure environment whilst at the same time allowing access to law enforcement bodies have been extensively debated (see for example "Scrambling for Safety", 1999). Mason *et al* (1995: 22) recognise the circle created by the joint forces of "demand pull" and "supply push" in the area of information technology:

> "The desire to use information encourages the installation of new technology; the installation of new technology stimulates ideas about new uses. Both forces form a positive feedback spiral ... moreover its global swath is expanding steadily".

Although at one level the object of enquiry can be said to be fairly static, i.e. the investigation of ethics, the rapid developments within the research environment suggest a dynamic and fluid research strategy.

3.2.3 Purpose of the research and the research question

In searching for an appropriate research strategy Robson (1993: 41) advises the investigator to consider the purpose of the enquiry. He identifies three common purposes:

1 Exploratory

- To find out what is happening
- To seek new insights
- To ask questions
- To assess phenomena in a new light
- Usually, but not necessarily, qualitative.

2 Descriptive

- To portray an accurate profile of persons, events or situations.
- Requires extensive previous knowledge of the situation etc. to be researched or described, so that you know appropriate aspects on which to gather information.
- May be qualitative and/or quantitative.

3 Explanatory

- Seeks an explanation of a situation or problem, usually in the form of causal relationships.
- May be qualitative and/or quantitative.

These classifications of purpose relate to the three traditional research strategies - experiment, survey, case study - in the following way (Ibid.:40):

- case studies are appropriate for exploratory work;
- surveys are appropriate for descriptive studies; and
- experiments are appropriate for explanatory studies.

Elaborating on the qualities of each approach he suggests (Ibid.: 43):

> "There is a further sense in which the flexibility of the case study strategy lends itself particularly well to exploration; a sense in which certain kinds of description can be readily achieved using surveys; and a sense in which the experiment is a particularly appropriate tool for getting at cause and effect relationships. *However this is not a necessary or immutable linkage.*" (my italics)

Following Robson's guidance on the purpose of the chosen method a case study strategy appears appropriate to this research, in that this research is of an exploratory nature (i.e. to find out what is happening, to seek new insights, to ask questions etc.) and needs a strategy which is fluid (Section 3.2.2.).

A further consideration when deciding on a research strategy, according to Robson, is the research question (1993: 43). Following the guidelines set out in Robson's table (Table 2), the "why" question ("why is the Internet the cause of such ethical controversy?") falls within both the explanatory and case study approach.

Table 2: Appropriate uses of different research strategies[1] (Robson 1993: 43-44)

Strategy	Type of research questions	Requires control over events?	Focus on current events?
experiment	how why	yes	yes
survey	who what* where how many how much	no	yes
case study	how why	no	usually but not necessarily

* some 'what' questions are exploratory; any of the strategies could be used.

Robson does point out that the above classifications are only guidelines and are not exclusive either of each other, or of other methods. He tells us that it is possible to have "hybrid strategies" or in some cases it "can make a lot of sense to *combine strategies*" (Ibid.: 41). This fluidity of strategies is also advocated by Martin Bulmer (1984). In an assessment of the "fit to task" of widely used research methods in the social sciences, Bulmer makes the point:

> "The overall research enterprise is characterised more adequately by its concern with problems than it is by an excessive devotion to a remote experimental ideal"
>
> (Ibid.: 12)

3.3 In retrospect

This research began with an exploratory strategy appropriate to the investigation of a new area of research. In attempting to understand the influences contributing to the ethical debate concerning the Internet, a fluid research strategy was sought.

Immersion in the field offered a way to find out how experts were dealing with the new issues, and it was hoped that some insights could be gained from these observations. To this end the author attended meetings and seminars specifically addressing the ethical issues which were causing concern, and became an active participant in two working parties investigating Internet governance. The airing of

1 Robson advises he has adapted this table from Yin, 1989, p.17; and that Yin also considers archival analysis and 'histories' which are not covered in the text Robson uses.

concerns and suggested methods of solution expressed within these working parties, meetings and seminars, captured the views of the people involved at that time. Such an environment provides a rich source of information for the researcher, and gives a realistic view of the current state of affairs. Tim Berners-Lee, in describing his vision of shared knowledge (ultimately expressed via the World Wide Web) notes how important points from meetings can be subsequently lost in the process of paper writing and publishing (Berners-Lee 1998: 163).

Although the author was unaware of this at that time, this strategy is closely aligned with Robson's (1993: 26) account of a successful starting point for research, as Table 3 (below) shows.

Table 3: Features considered by researchers to characterize the antecedents of their successful and unsuccessful research (Robson 1993: 26)

Successful research develops from:

a *Activity and involvement* Good and frequent contacts both out in the field and with colleagues

b *Convergence* Coming together of two or more activities or interests (e.g. of an idea and a method; interest of colleague with a problem or technique).

c *Intuition* Feeling that the work is important, timely, 'right' (rather than logical analysis)

d *Theory* Concern for theoretical understanding.

e *Real world value* Problem arising from the field and leading to tangible and useful ideas.

Unsuccessful research starts with:

a *Expedience* Undertaken because it is easy, cheap, quick or convenient.

b *Method or technique* Using it as a vehicle to carry out a specific method of investigation or statistical technique.

c *Motivation by publication, money or funding* Research done primarily for publication purposes rather than interest in the issue.

d *Lack of theory* Without theory the research may be easier and quicker, but the outcome will often be of little value.

(Adapted from Campbell et al., 1982, pp. 97-103.)

In retrospect, the methods employed conform to Robson's account of exploratory research described above (to find out what is happening, to gain insights etc.), and to a case study approach, wherein the Internet with its related ethical concerns is the case to be studied.

According to Robson (1993: 146) a case study is:

> "a strategy for **doing** research which involves an empirical investigation of a particular *contemporary* ***phenomenon*** within its real life context using multiple sources of evidence". (my italics)

The case study approach answers the methodological issues of doing research in a new area, and is appropriate to the research question. This type of strategy is also appropriate in an area of research which is undergoing change, and in this situation an immersive, participatory approach has many advantages. Discussing the relative advantages and disadvantages of different research methods Bulmer (1984: 27) notes:

> "Social surveys for example dictate a stance toward the invariant and stable features of social reality, *while participant observation assumes a reality continually in change and flux*" (my italics)

Robson also points out that a case study may develop into action research, and that "hybrid" strategies may be appropriate (1993: 52). Both strategies can incorporate participation; in case studies participation is optional, whereas in action research participation takes a central role. The distinguishing feature of action research from a case study is "action", that is the action of the participant contributes to a changing situation. So, for a case study the participant is an observer (who may take some role within the situation to establish credibility and encourage trust); in action research the participant is usually a "practising professional" (and recognised as such by the community within which they are operating) working with the community to effect a change (Winter 1996; Cunningham 1988).

This research incorporates both the case study and action research models in the following ways:

- It addresses the "case" of the Internet by decomposing it into four areas of investigation, corresponding to chapters 4 to 7. The choice of the four areas was determined by the technological underpinning of the Internet, and the literature review - as explained in Chapter 1 (p.10) - and whilst they are not claimed to be a complete partitioning of the field, their coverage is sufficiently comprehensive to provide the basis for a substantial guide to influences on behaviour.

- Active participation in the three working groups constitutes action research, in that the discussions and publications produced were ongoing activities directed at raising the awareness of practising professionals, thereby effecting change.

Working within these groups (IFIP WG9.2 and SIG9.2.2, CCSR, EURIM) - comprised of practising professionals in ICT - provided the chance to (i) be informed of current developments in a fast moving domain, and (ii) personally contribute both to the discussions and the achievements of the groups. This contribution resulted, in

all three cases, in the production and publication of informative pieces of work directly addressing issues of ethics, and primarily aimed at influencing professionals in the field. Robson makes the point: "It is taken as given that all enquiry is concerned with *contribution to knowledge*. Real world enquiry also commonly seeks a potential usefulness in relation to policy and practice" (Robson 1993: 42).

The following section describes more fully the aims and scope of the working groups, and the resulting actions.

3.4 The working groups

At the beginning of the research period the aim of "going out into the field", i.e. attending the ETHICOMP'98 conference, the ESRC seminar (September 1998) and the IFIP WG9.2 meeting (Farnham 1998), was to find out first hand what the experts in the field were concerned with. That is, a survey of the field gained from first hand accounts and the most current literature available.

These meetings confirmed the impression of a new domain, concerned by anecdotal evidence and media reports of "unethical" behaviour, and unsure of how to proceed. The paper presented as part of this research at the ETHICOMP'98 conference, and included in this thesis (see Appendix B:1), summarises concerns expressed by UK information technology professionals regarding the implications of IT in 1997. The types of issues, and nature of the concerns expressed in that paper were, with hindsight, a fair reflection of the general mood at that time. Many of the issues, such as individual isolation, the accessibility of pornography to children, a new social distinction of "information rich and information poor", personal data and privacy, and so on, have been a part of ongoing discussions in the media, governments and academia since then, and the subjects of legislation and research.

The meetings attended in the first year of the research period led to the opportunity of further personal involvement in working parties and other groups addressing the challenge of ethics and computer technology. The ETHICOMP'98 conference led to an involvement in a series of seminars (conducted over two years) instigated by Prof. Simon Rogerson of the Centre for Computers and Social Responsibility (CCSR) and partly funded by ESRC (Economic and Social Research Council). The July 1998 meeting of SIG 9.2.2 led to the opportunity to act as rapporteur for the group's workshop and round table initiative at the TC9 conference "Human Choice and Computers" in August 1998, and continuing active participation with that group (becoming Secretary of WG9.2 in July 2000). An opportunity also arose to act as rapporteur for the EURIM working group on regulation and e-commerce during the period November 1998 to February 1999.

These three groups have distinct roles to play in relation to the bigger picture of the Internet and its ethical impact: policy in government (EURIM), computing professionals (IFIP), and research policy (CCSR/ESRC). The members of these groups, although all professionals in IT, come from different cultures and communities and thereby provide different perspectives whilst aiming at a common goal: that of addressing the ethical and social concerns raised by IT and the Internet. EURIM aims to provide advice to the UK government, the members mainly coming from the (UK) commercial sector (and with some stake in the outcome of any regulation). The members of the IFIP group are a mixture of academics and IT professionals with an international background, who have an interest in the ethical and social issues raised by computers. The ESRC seminars were attended mainly by UK academics (although practising non-academic professionals were at each seminar to "ground" the discussion in "real-world" activities) with the aim of assessing the pressing research agenda.

This research has not only been informed to a great extent by participation in these discussions, but has also made a significant contribution to the field in concrete and less concrete terms. Less concretely, but nevertheless vital to the process of knowledge-building in a new domain, is the verbal sharing of tacit knowledge, relevant information, and informational resources, and the explicit expression of views and pertinent questions. These processes together constitute the "action" in this research, and therefore the author's active role in each group is described below, set within the context of the particular working method adopted by the different groups (sections 3.4.1 -3). The written outcomes of these actions are recorded in section 3.4.4.

3.4.1 ESRC

In the case of the ESRC seminars a position paper was submitted prior to the event to give a basis for discussion on the day. At the beginning of the day invited speakers gave some background to the topic, and were followed by a workshop session. Attendees divided into groups (headed by a facilitator) with a remit to discuss a specific aspect and report back following their deliberations. The seminars were hosted by universities and held at different locations in the UK.

Personal Activities:

- Submission of position papers

- Instrumental in organising the event hosted by Middlesex University on "virtual education"
- Facilitator and reporter for one of the discussion groups at the Middlesex event
- Author of the chapter "virtual education" in the final published report

3.4.2 IFIP

The IFIP meetings were similarly held in different locations (in Europe), and were held over three days (the first day to cover SIG9.2.2 tasks, the remaining two days for WG9.2 business). These meetings follow a pre-set agenda and are minuted. In addition to this traditional approach, the group has introduced a novel, and informative, initiative - referred to as "teach-ins". These are presentation sessions (up to one hour) which can be used by attendees to put before the group pressing issues, or ideas for discussion.

Personal Activities:

- Rapporteur for the rolling workshops and round table event at the HCC5 conference in Geneva (see above)
- Co-author of the monograph arising from the above event
- Presentations at the "teach-in" sessions January 1999, 2000 and 2001(preliminary versions of the papers forming the background to Chapters 4 and 5 of this thesis, and a summary of the whole thesis)
- Instrumental in organising the three-day meeting held at Middlesex University in July 2000
- Acting Secretary for the WG9.2 group in July 2000

3.4.3 EURIM

EURIM operated in a slightly different fashion. The meetings were held in London (appropriate to the group's links with Parliament) at least once a month. Each working party consisted of a "core" group who investigated the issues and discussed policy prior to setting their ideas before the larger working group. This made the discussion time in the larger group more efficient, the core group having prioritised and condensed information and ideas which were presented in a draft "briefing paper". This paper would then be discussed in a larger consultation meeting, and a final paper produced.

Personal Activities:

- Rapporteur for the core working group
- Introduction of a university viewpoint (as the sole academic representative)
- Author of the first draft briefing paper

3.4.4 Concrete outcomes

In concrete terms this dynamic input is made more permanent in written form before and after the discussion meetings. Some preparation is necessary before meetings: in a one-off situation this may take the form of a position statement; in on-going meetings documents need to be amassed, summaries made of previous meetings and their outcomes noted. In all cases the specific purpose of the documentation is dissemination to a wider audience - to stimulate thought, further knowledge, and in some cases provide advice (as in the case of EURIM). These documents have been made "public" both digitally (the Internet) and in more traditional ways (conference proceedings, monographs and formal reports). They are listed below, and included as appendices in this thesis as forming part of the contribution of this research.

(1) IFIP SIG9.2.2 (Appendix A:1)
Ethics and the Governance of the Internet. Jacques Berleur, Penny Duquenoy and Diane Whitehouse (eds.). IFIP, Laxenburg - Austria.

(2) Centre for Computing and Social Responsibility (Appendix A:2)
Social Responsibility in the Information Age. N. Ben Fairweather and Simon Rogerson, with Jackie Rafferty, Penny Duquenoy and Chris Megone. De Montfort University, 2000.

(3) EURIM (Appendix A:3)
"The Role of Self-Regulation in Electronic Commerce". EURIM (European Informatics Market) - Briefing No. 25 , March 1999.

The dynamic interaction resulting from the working groups has both immediate and far reaching effects which, it is hoped, are beneficial to the participants, the wider research community, policy makers and ultimately the general public.

3.5 Conclusion

This chapter has argued for the exploratory, and active, approach taken in this research project. The fact that this research has been conducted in a relatively new domain which is still developing has been a major influence in the choice of research method.

Whilst the initial involvement with the three working groups was in a sense, opportunistic, the diverse objectives of the groups contributed to a well-rounded picture of the problems besetting the field of Internet ethics. Full commitment to the groups was rewarded by acceptance within the different communities, which resulted in discussions and papers beneficial to this research. This active role also allowed for the testing of the ideas in this thesis, and the feedback gained stimulated further

reflection. This chapter has also emphasised the important role of discussion and expert interaction in new and fast-moving domains such as the Internet.

The strategy adopted has been beneficial not only to this particular work, but also contributes to the wider knowledge of the field in the form of discussion, and ultimately by the publication of material to practising professionals.

Chapter 4

Internet technology and ethics

"From a narrow technical viewpoint, it is easier to see the world of the Global Information Infrastructure, the backbone of an on-line society, as a set of networks passing packets of data across media to the global community without any moral component. This definition may be technically accurate, but it fails to attend to the true significance of this technology: as the dynamic "information superhighway" of the world. As such, it contributes to human well-being."

(Grodzinsky 1999)

"The prevailing trend is to think that all possible problems can be fixed by technological means that do not require ethical reflection"

(Hamelink 2000: 6)

4.1 Introduction

The form of this chapter takes two parts – which are reflected by the two quotations above. The first part aims to show how ethics can be displaced by technical descriptions, and the second part looks at the technological "fixes" developed in response to ethical concerns.

The first section introduces the Internet in its technical context and shows how terminology has ethical "side effects", which can lead to the view that technology is ethically neutral. It is noted that despite the contemporary trend which acknowledges an ethical aspect to technology, leading figures in the ICT world are still espousing the neutrality of the latest technological developments. Whether or not technology is neutral is important to the allocation of moral responsibility. If technology is neutral then any responsibility for ethical outcomes must go to the user, and not to the designers. This first part of the chapter shows that design values are incorporated in the technology, and imposed upon the end user. Design thus plays a vital role in the ethical world, and a case can be put for ethical design practices.

The purpose of this chapter is to emphasise the relationship between the technology of the Internet and the ethical issues it raises. In the second part, specific examples of the technological response to censorship, privacy and security issues are given to further illustrate the close ties between technological design and its ethical consequences. By looking at examples of technical solutions to problems of the

Internet (such as the Platform for Internet Content Selection (PICS)) we can see the ethical dilemmas raised by technology. The examples are not intended to be highly technical. More comprehensive and detailed technical accounts are beyond the scope of this thesis and are more appropriately found from other sources (for example, the World Wide Web Consortium - www.w3.org). The discussion shows that technical solutions are not the whole answer, and indeed raise other ethical issues.

The aim of this chapter can be summarised as follows:

- to note the influence terminology has on ethical design
- to emphasise the importance of the role played by computer professionals (particularly designers) to Internet ethics, and underlying that,
- to emphasise the need for ethical awareness in design
- to clearly show that solving ethical problems with technology is only part of the answer.

4.2 A Technological viewpoint

Robert Kahn (co-inventor of the Internet with Vint Cerf), gives a formal definition of the Internet:

> ""Internet" refers to the global information system that -- (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein"
>
> (Kahn 1997)

According to this description the Internet is simply a technical structure. It gives no clue to the ethical and social consequences of the type of communication this system allows. Such a description illustrates how it is possible, as a computer professional, to be unaware of the ethical consequences of technology, and to deny responsibility for the consequences of such innovations in the wider world. Robert Cailliau, who in conjunction with Tim Berners-Lee invented the World Wide Web, specifically denies any responsibility for the changes the Web has brought, claiming: "Scientific knowledge and technology in themselves are neutral" (Marchant 2000: 43). In this interview Cailliau makes a distinction between technology and the use (or abuse) to which it is put; firmly placing ethics in the sphere of the users. A similar point of view was taken by David Svendsen (2000), Chairman of Microsoft Limited, addressing the "ethical and spiritual implications of the Internet". He believed that

the Internet "exaggerates our ethical behaviour and makes it more visible" but that the Internet is "no more than a car". He concludes: "The Internet is neither good nor bad".

Two contentious issues arise from the foregoing comments. One is Robert Cailliau's remark which puts scientific knowledge and technology in the same domain, the other is the purely instrumental view adopted by David Svendsen.

To take Robert Cailliau's remark first. If one subscribes to the view that scientific knowledge is discovered, it is stretching the point to include technology in that concept. Scientific knowledge and technology are two different things, the first is acquired the second is created. To talk about technology in the same breath as scientific knowledge abstracts the active human involvement in the creation of technology, thereby devolving any responsibility for the consequences of that creation. The second, instrumental viewpoint has similar outcomes. The first simply denies any moral responsibility on the part of the creator (and puts responsibility we know not where), the second specifically shifts responsibility to the user. Referring to technology in morally neutral terms, unsurprisingly, encourages a position of moral neutrality by those who are closely involved with it.

Hamelink (2000: 26) notices a similar trend whereby references to new social paradigms and an "information revolution", disconnects the so-called information age from its historical and social origins. In other words, that technology just happens, and is somehow created in a "socioeconomic vacuum".

> "The information society scenario refers to ICTs as disembodied, independent factors. It takes a 'tool centric' perspective that abstracts from institutional settings ... when ICTs are perceived as an 'enabling tool', there is usually more emphasis on technology as a disembodied variable than on the institutional arrangements within which it functions"

The focus of Hamelink's argument is that institutions, and the policies of those institutions, have as much social influence as ICTs. This is a slightly different angle to the one promoted here, but the essence of the argument is the same, which is that disassociating technology from the designer element gives an unrealistic view of the human role that detracts from any sense of moral responsibility.

This is not a new insight, observation or argument, the debate on the moral neutrality of technology goes back at least to Norbert Wiener (1960). What is interesting, is that the purely instrumental view of technology is still put forward today, and even more

interesting is that such a view is espoused by leaders of the new "information age". Interesting, but not perhaps surprising. According to Hamelink (2000: 6):

> "Throughout the history of technological innovation its main architects have often denied their moral responsibility. This is the 'Frankenstein syndrome ' ... In Shelley's story [1818] Frankenstein symbolizes the refusal of science and technology to accept moral restrictions, the inclination to be guided by considerations of 'engineerability' only, and the tendency to reject liability when undesirable effects occur. This amoral attitude on the part of the inventors is ever more problematic as more and more people - given the complexity of modern technologies - tend to delegate responsibility for technology choices to the experts".

4.3 Linking technology and ethics

A slight shift from the above position, which denies moral responsibility, towards acknowledgement of the social and ethical consequences of technology is taken by Tim Berners-Lee (1999), the originator of the World Wide Web.

The origins of the Web began with the technical problem of compatibility between networks which severely constrained the sharing of information between users. The concept of the Web, in essence, was to enable such sharing. Berners-Lee wanted to move from the traditional hierarchical structure inherent in computer systems, to a decentralised system accessible to, and by, all. The setting up of the World Wide Web Consortium (W3C) in 1994, and his involvement with it, sprang from his vision of the Web as an open environment: "The Web Consortium tries to define protocols in ways that do not constrain the norms or laws that govern the interaction of people." He thus recognises the role of technological design as an enabling or constraining factor in social and ethical behaviour.

Although Berners-Lee maintains the neutrality of W3C with regard to commercial enterprises and politics, he does not underestimate the facilitating role of technology in social interaction:

> "Since the Web is a work in progress, the consortium seeks to have a dialogue with policy makers and users about what sort of *social interactions the Web should enable*. Our goal is to assure that the Web accommodates the maximum diversity of public policy choices. In areas like freedom of expression, privacy, child protection, intellectual property, and others, governments do have a role. *The kinds of tools we make available can help assure that those laws are effective, while also ensuring that individuals retain basic control over their online experience*" (my italics).

The World Wide Web Consortium further acknowledge the facilitating role of technology with their "Web Accessibility Initiative" which promotes "a high degree of usability for people with disabilities"[2].

This "enabling" and "constraining" aspect of the technology of the Internet is the subject of Lawrence Lessig's insightful work, *Code and other Laws of Cyberspace* (1999). Lessig describes the influence of the design of the Internet (i.e. the architecture) on the choices available to us in our communication interactions. This is at the heart of the matter. Choice may or may not involve personal values, some choices may be made randomly without much thought, other choices express a preference for one value against another. There are two levels of choice at work with the Internet: there is obviously the choice of its users as to how they will use it, and in whatever ethical way it will be used; prior to these choices however, are the choices of the designers and innovators - these choices will allow certain practices and constrain others.

Lessig argues that, despite the popular impression of the Internet being "irregulable", it is already highly regulated (by programming code). This being the case, design choices have a crucial impact on what users may be allowed to do (or conversely, not allowed to do). Furthermore, if this line of thinking is pursued, policies can, and will, be "designed in" to the Internet. Wherever policies originate, whether from individuals or groups, they can be expressed through design. We have already seen that the policy of Tim Berners-Lee - to create an open, shared environment - specifically led to the design of an environment which enabled that to happen. If corporations, such as Microsoft, have a policy to exclude competitors, that too can find expression in design. If governments call for particular policies (for example, China has a policy of restricted access to the Internet), these can be "designed in".

For those involved in the computing profession to say that the Internet is "only a tool" is at best misguided, and at worst dangerously misleading. At the very least it encourages a lack of moral thinking in the design process. Once moral thinking is excluded from design, it is easy to justify an abdication from moral responsibility. It could also be argued that the implications for the user are far worse. Users, through ignorance, are a vulnerable group. If experts deny the ethical relevance of technology

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[2] http://www.w3.org/WAI/about.html

the user, by default, is denied the right to have their ethical concerns taken seriously[3]. Not only that, if the user is led to believe that technology is "no more than a tool" they are also likely to be unaware of the possibility of manipulation, and furthermore will be ignorant of how "things could be better".

Raising awareness of the link between ethics and technology within the professional community has been one of the objectives of this research project. Throughout the research period a variety of endeavours have been made to achieve this end, through published papers and through discussion. One way of encouraging ethical design is to show the relevance of ethics to technology, and to relate ethical theory to design practice in terms familiar to those engaged in the profession.

4.4 Introducing ethics to design

The paper "Justice and Design" (Duquenoy and Thimbleby 1999, see Appendix B:2) attempts to show how John Rawls' Theory of Justice, and in particular his idea of the "veil of ignorance", can be usefully employed within the design sphere to promote "fairness" in design. The remaining paragraphs in this section are from that paper, and part of this author's contribution to that work. An earlier version of this paper was presented at the IFIP SIG9.2.2 meeting in Namur, 1999.

The Rawls theory of justice emphasises justice as fairness, arriving at two fundamental principles - liberty and equality. This theory is intended for application in a political sphere, and as such addresses social, rather than individual, ethics. The essential idea is of a social contract - the key elements of the Rawls theory are "the original position" (the veil of ignorance) and the two principles of liberty and equality.

Rawls uses the idea of the original position to provide a justification for the basic principles, which constitute his theory. The strategy aims to disassociate the individual from preconceptions and prejudices by adopting a starting point (original position) of "ignorance." From this position, the individual is free to perceive the world from any potential vantage point - unencumbered by inherited social status. Thus the original position is a device for ensuring an equal starting point, and from this point the individual perceives the world through a veil of ignorance. This gives the basis for entering a fair social contract. According to Rawls, "The original

[3] An analogy can be made with the recent farming crisis in Britain regarding BSE, where the government dismissed the concerns of the populace by repeatedly citing the opinion of experts that there "was no evidence to suggest ... that humans could be vulnerable to the disease". In other words, they were told their fears were ungrounded. This turned out not to be the case.

position is defined in such a way that it is a status quo in which any agreements reached are fair. It is a state of affairs in which the parties are equally represented as moral persons and the outcome is not conditioned by arbitrary contingencies or the relative balance of social forces." (Rawls 1972: 120)

It is Rawls' argument that a search for basic principles to underpin a social contract, from the perspective of the veil of ignorance, must result in the two principles of *liberty* and *equality*.

- The *principle of liberty* ensures against persecution, discrimination, and political oppression.
- The *principle of equality* allows each person of equal ability and motivation the same chance of success, regardless of social status.

This theory then, addresses issues of rights and social advantages and disadvantages. These issues are very much incorporated into the design sphere, they are highlighted in today's technological society and are particularly magnified by the Internet. For example, the Internet has raised issues of the right to freedom of expression, and equality of access (in financial terms and in terms of technological capability).

There are inequalities between designers and user, by definition designers will have more knowledge of these systems than most users. Rawls recognises this natural inequality in a social system, and utilises it within a third principles (the "difference" principle) which states that inequalities are justified only if they benefit the worst off. Therefore, the inequality in knowledge, which exists between the designer and potential user, can only be justified if the designer uses that knowledge to benefit the user. So, for example, in a design context those who have the advantage of say expertise and knowledge, should use that to give benefit to the otherwise disadvantaged.

The theory (being a political theory) is specifically a "group" ethic, to be utilised in the group situation, rather than an individual ethic. Individual ethics are notoriously difficult to apply in group situations. Design is a group situation. Things that are designed are designed (usually) for groups. This applies particularly to technology. In addition, it is usually the case that groups are involved in the design process, and that the resulting artefact will have an impact on groups of people. (The manufacturing and marketing industries are based on these assumptions.)

However, the approach has advantages and disadvantages. The advantages are:

- The theory applies to social groups, and is therefore designed for use by groups. Design is (usually) for groups, by groups and impacting on groups.
- The theory provides worthwhile aims, liberty and equality, with which people can identify.
- The concepts of liberty and equality are well understood in western society, those involved in design are not required to make great mental "shifts" to incorporate new concepts.
- The theory calls for a fair and equal impact on society, fitting well with the current trend in Information Technology.
- Equal rights includes minority groups who therefore have a right to be "designed for."

The disadvantages:

- The favoured method of manufacture (i.e. mass production) is not geared to minority groups (very often the less advantaged).
- Designing from a veil of ignorance requires designers to "imagine" all possible users - an unlikely, if not impossible, scenario.
- Is it even desirable to design an artefact for all possible users?
- It is arguable whether it is even possible to design an artefact for all possible users (e.g. international user interfaces that work in other cultures.)
- The theory is not viable in some areas of design (i.e. where there is a deliberate choice of inequality, such as missile design.)

The hypothetical model of a social contract brings an explicit ethical focus into our working world. Is such a contract applicable in the area of design? We believe that the notions, arguments and concepts presented by Rawls can be applied to the area of design, and that the resultant outcome is as beneficial to the "user society" as Rawls implies it would be to the "political society." Politics refers to "rights" - in a design context does the user have rights? If so, according to Rawls' theory, the notion of equal rights comprises not only the right to equal treatment, but also the right to treatment as an equal.

Thus the ideas put forward in the paper "Justice and Design" seek to redress the imbalance of power (noted in the previous section) in a practical way.

4.5 The Internet and ethics

The previous section introduced the idea of technology designers adopting an ethical stance in their design approach, implying a conscious choice of applying ethics to design. The aim of this section is to show that with or without conscious ethical reflection there is a direct connection between computer technology and ethics. We

look at some specific features of the Internet which set the conditions for behaviour, beginning with the underlying architecture of the Internet which sets the regulatory tone, and then moving on to discuss certain conditions which the architecture allows: anonymity, scope, reproducibility, and "easiness".

4.5.1 Architecture

The architecture, according to Lessig (1999), sets the regulatory tone of the Internet. Regulation means the same as allowing certain things to happen, and constraining others. The technology of the Internet cannot be divorced either from the behaviour of the people who use it, or the behaviour it exhibits itself which has been designed into it. As Lessig (1999: 30) says: "the nature of the Net is set in part by its architectures, ... the possible architectures of cyberspace are many. The values that these architectures embed are different, and one type of difference is *regulability* - a difference in the ability to control behavior within a particular cyberspace. Some architectures make behavior more regulable; other architectures make behavior less regulable."

The difficulties of regulation (in the traditional, legal sense) are noted by Spinello (2000: preface), who also expresses the popular image of the Internet as a "new frontier land":

> "is a challenge to legal systems, which have had a difficult time keeping up with this global technology. In the past, the Internet was an unstructured electronic terrain, a frontier with few rules and restrictions".

The difference in physical space is picked up by Mark Stefik (1999: 11) but with the emphasis on cultural impact: "As the effects of borders are reduced, a country's cultural life is equally subject to influence by actions taken elsewhere in the world." His argument is that the "cost" of distance to social interaction is reduced (i.e. distance no longer forms a barrier either by time or space), with the result that the effects of a "local" action may be felt in any other place. He describes something of a ripple effect, saying that the Internet "amplifies change ... by reducing the power of distance ...The fan-out effect of the Net can cause multiple changes at many distant locations."

However, Stefik also points out (in a similar way to Lessig) that the Internet is not without barriers. Barriers are deliberately made in, for example, chat rooms, intranet gateways, and encrypted "digital envelopes" (1999: 14).

4.5.2 Scope, anonymity, reproducibility

Deborah Johnson (1997) picks three other features of the Internet, which although not inherent in the infrastructure are a consequence of its technological design. They are: scope, anonymity, and reproducibility. One individual can send one message to a vast number of other people, and can do so very quickly. Although other technologies (telephone and television) have part of this capability (speed and broadcasting capacity respectively) the Internet combines these facilities, and furthermore allows a two-way interaction. Although anonymity is possible in the off-line world, it is very easy to be anonymous on the Internet. Anonymity raises questions of integrity and inhibits the development of trust, a fundamental ingredient in social interaction. Finally, the Internet allows information to be reproduced (any number of times), and without damage to the original, that is, copying can take place without the knowledge of the author. Copies can be indistinguishable from originals, or originals can be altered without the knowledge of the author.

4.5.3 "Easiness"

The Internet makes many things easy. The previous paragraph observed how easy it is to be anonymous. Weckert (2000) notes the ease of duplication and replication, and Lessig (1999: 22) uses an example of searching to show how much easier, and therefore less costly in a number of ways, this technology is.

> "The ordinary or paradigm case is a search that carries costs: the burdens of the search, the insecurities it might create, the exposure it might make possible to invasions beyond a legitimate reach. The worm erases those costs: the burden is gone, the search is (practically) invisible, and the searching technology is programmed to find only what is illegal [in this example]".
>
> (Lessig 1999: 22)

The ethical consequences of the "easy" character of the Internet are summed up by Spinello (2000: ix): "If it is easier to publish and spread truthful and valuable information, it is also easier to spread libel, falsehoods, and pornographic material. If it is easier to reproduce and share digitized information instantaneously, it is also easier to violate copyright protection. And if it is easier to build personal relationships with consumers, it is also easier to monitor consumers' behavior and invade their personal privacy."

4.6 Raising problems

As early as August 1994 problems of use of the Internet were envisaged. Vint Cerf, at that time President of the Internet Society, drafted some guidelines for conduct on and use of the Internet (Cerf 1994). It is interesting to see the types of issues

considered noteworthy by one of the founders of the Internet, i.e. one of the creators of the technology which is the focus of this work. The potential problem areas envisaged by Cerf are:

- Privacy
- Security
- Intellectual property (the issue of ownership)
- Mailing lists, newsgroups, and bulletin boards
- Advertising
- Capacity of transmissions (MBONE)

The first three still dominate the debate today, and are considered urgent. The latter three items on the list have not received so much interest - perhaps due to controls being exercised by Internet Service Providers, and the establishment of codes of conduct. The capacity of transmissions in itself is not seen as an urgent problem as yet, although problems have been experienced with virus attacks resulting in system overload, thus prohibiting access to legitimate users.

Privacy and security are seen as key issues for the success of e-commerce, and as such are considered a high priority for resolution. A newsletter of September 2000 published by EURIM (an organisation working closely with the UK government) comments:

> "The recent publicity given to internet banking and e-transaction security breaches and the "theft" of files of personal information gives added urgency to the need to ensure the widespread adoption of routines which not only meet legal requirements but also *help turn timid browsers into confident and satisfied repeat buyers*." (my italics.)

In other words, users do not trust the system enough to give credit card and personal details over the Internet. Inspiring trust and giving reassurance regarding integrity are initiatives encouraged by a number of high level institutions (OECD 1998, UNESCO 1997, DTI 1999, IEE 1998) to raise consumer confidence, mainly in response to the "golden egg" of e-commerce. Technological solutions to these concerns are described in the following section.

The third concern on Vint Cerf's list which has been the subject of great debate is Intellectual property. This issue is considered in Chapter 6 (regulation), as the concerns are to do with restricting access to software via legal measures (as opposed to technical regulation), and therefore will not be discussed here.

One issue not foreseen by Vint Cerf is the availability of pornographic, or "illegal and harmful" material to a diverse consumer group (including children). This was a subject of immense concern in 1995 (elaborated in the following section) and is an increasing cause for concern today.

4.7 Solving problems via technology

Using technology to solve the problems created by technology is a natural answer. The World Wide Web Consortium, aware of the detrimental effect of the previously noted concerns regarding the Internet, have taken a primary role in initiating technological responses to the problems of privacy, security and content.

4.7.1 Privacy

Issues of privacy are a prime concern of users, and lack of confidence in the ways personal information may be used on the Internet is seen as a major obstacle to e-commerce and the future expansion of the Internet (Laetitia Rolin 1999: 31). In the same context Rolin notes that:

> "the [Federal Trade] Commission has demanded that effective self regulatory measures should be implemented before early 1999"
>
> (ibid: 32)

The motivation to address this issue therefore has strong grounds - to encourage use of the Internet and to meet government demands. The World Wide Web response to this problem is their "Platform for Privacy Preferences" project, the aim of which is to develop an automatic negotiation system which could interact between the user's browser and the seller's server. According to the publicity brochure issued by W3C (June 2000):

> "The Platform for Privacy Preferences Project (P3P) will give a computer a way of describing its owner's privacy preferences and demands, and give servers a way of describing their privacy policies, all done so that the machines can understand each other and negotiate any differences without a person at either end getting involved."

The dialogue between servers consists of a straightforward question/answer interaction -covering questions related to data (who is collecting the data? what data is collected? why? which information is shared, and with whom?), and to the site's privacy policies. The programme as it is envisaged can meet both private needs (the user), and public needs (institutions and governments):

> "a user's browser ... can check a Web site's privacy policy and inform the user of that site's information practices. The browser could then automatically compare the statement to the privacy preferences of the user, self-regulatory guidelines, or a variety of legal standards from around the world."

Although this solution goes a long way towards addressing privacy concerns, W3C acknowledge that this is not the ultimate answer to privacy issues, which are complex and will need a combination of "technology, a legal framework and self-regulatory practices". Discussions and testing of P3P are ongoing (see: http://www.W3.org/2000).

4.7.2 Security

Privacy and security are closely linked issues. The previous section discussed a technological solution in relation to personal data. In this section we look at a technology which is to do more with content and carriage. Computer security is not a new issue, the use of passwords to access networks and stand-alone machines have been part of the computing environment for many years. The Internet, based as it is on the idea of an open network, has presented problems which passwords alone cannot answer. The network has proved extremely vulnerable to unauthorised intrusion (by persons and viruses). The use of firewalls by organisations has gone some way to protect company interests, but this does not resolve Internet issues, which explicitly entails content being passed between servers out of the intranet domain.

The answer to this problem appears to be encryption, i.e. using a cyphering system to encode messages, a system moreover which is eminently suitable to computer technology. Strong encryption (essentially impossible to decipher without a decoding key) is naturally favoured by governments and the military. They are not, however, favourable to its use by others. (In fact, the United States banned the export of encryption technology for a number of years, and even now export is restricted (Spinello 2000: 140)).

In a paper presented as part of the IFIP SIG9.2.2 rolling workshop and round table series on Internet Governance, Joseph Kizza (1999: 34) stresses the importance of encryption to the future development of the Internet:

> "Internet commerce, or ecommerce, has been the fastest growing component of the Internet. This growth, and indeed the growth of the entire Internet, will depend on the security of sensitive information while on the Internet, hence on cryptography"

Encryption, however, is a two-edged sword. High level coding, which ensures the total protection of content sent over the Internet, is of intense concern to governments and law enforcement agencies who have traditionally been able to intercept communications. The ethical issues this technology has raised are discussed in Section 4.8.2.

4.7.3. Content selection

Attempts have been made to address the grave concerns expressed following the widespread interest in the pornography issue in 1995. Following the, by now, infamous allegations by undergraduate Marty Rimm regarding the massive scale of pornography available on the Internet (published in *Time*, 3rd July 1995), urgent efforts were put into producing technological controls to pre-empt government legislation and censorship. As it turned out the report by Rimm was subsequently severely criticised for its suspect research methods (Li 2000). However, this is not to deny the enormity of the problem, both in terms of the availability of pornographic material on the Internet, and the human abuse which underpins this industry.

The World Wide Web Consortium played a leading role in tackling the pornography problem by creating PICS (Platform for Internet Content Selection) technology. Tim Berners-Lee (1999: 113) describes it thus:

> "The idea was to create a simple program that could be installed on or in any browser and would let parents block the display of sites that carried a certain rating".

The role of the consortium was to define the languages for defining the ratings. A number of filtering and blocking systems are now available to users, and conventionally incorporated in browsers. The policy behind this solution was to avoid heavy-handed legislation and put control in the hands of users - thus maintaining the decentralised and "free" (in the sense of unregulated) character of the Internet. Spinello (2000: 1) notes the success of technology over traditional legal means as a controlling mechanism:

> "Although the control of technology through law and regulation has often been a futile effort, "correcting" technology with other technology has been far more effective. The regime of law has had a hard time suppressing the dissemination of pornography on the Internet, but blocking software systems that filter out indecent material have been much more successful."
>
> Spinello (2000: 1)

4.8 Ethical outcomes

4.8.1 Privacy

The World Wide Web consortium's answer to one aspect of the privacy issue, P3P, is still at an early stage of development. It may prove to be the case that this technology in itself does not generate other ethical issues. Values included in the design are reflected in the questions put forward by P3P to web sites, and the acceptability or otherwise of the answers it receives. Potential ethical problems could be ameliorated by ensuring a "customisation" option for the user (so they can choose which question they consider important), and by ensuring that the user is fully aware of what P3P is and how it works (following an ethical position of "informed consent"). Needless to say, the user-interface needs to be clearly laid out and easily understood. Ethical problems that could be envisaged would be if P3P is shipped out and "hidden" in browser software, with default settings which are beneficial to certain organisations, states, or cultures.

A broader issue is that with the introduction of technical regulation (as this type of programme is), these matters may be perceived as having been fully dealt with and thus put aside, rather than looking at the deeper issues of data gathering (such as, is it *really* necessary?[4]). In other words, users may become complacent about privacy issues, thinking their computer "will deal with it". Additionally, as "ethical" programmes are developed, more moral responsibility is accrued by their creators. Is the profession ready, and willing, to accept this responsibility?

4.8.2 Security - the encryption debate

Whilst encryption does seem to provide the answer to security issues, it has been the focus of an enormous amount of publicity, firstly due to its classification by the United States as "munitions" and thus subject to export restrictions, but more recently as part of the Regulation of Investigatory Powers Bill (RIP) in the United Kingdom. Chris Zielinski discusses "The Ethics of Encryption" (1998) drawing attention to the tensions between the "private citizen's assumed right to make use of powerful encryption ... as an enabler of individual freedoms" and the "existence and deployment of encryption for the purposes of ensuring State secrecy." The debate in the UK centres on the policing aspect of suspected criminal activity; law enforcement agencies holding that they should be able to "read" documents of a criminal (or potentially criminal) nature, in the same way they have been traditionally able to intercept post and carry out phone tapping. In order for the government to be able to decipher communications they must have access to the (digital) key which can

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4 See for example "Personal Data: Issues of Ethics and Regulation", this author's contribution to the CCSR seminar series "Social Responsibility in the Information Age", included in Appendix C.

unlock the code. Most of the controversy regarding the RIP Bill centres on how governments can have access to such a key. One way is to keep keys with a "trusted third party" (TTP). However, two arguments have been given against the practicalities of this idea. One is that criminals are unlikely to lodge spare keys with TTP's (which would probably mean that lodging keys becomes mandatory), and the second is that a database of secure keys is a highly attractive, and vulnerable, target for criminals - offering extremely rich rewards. Penalties for withholding keys is a two year prison sentence. It has been pointed out that receivers of unsolicited coded messages will not have a key, the contentious point is that the burden of proof is on the individual to prove they are innocent (i.e. have no knowledge of a key, or have honestly lost it). Naturally, civil rights organisations are enormously concerned about this bill. (On 8 March 2001, The Foundation for Information Policy Research web site "Regulation of Investigatory Powers Information Centre" listed almost 1,000 media headlines regarding this topic. http://www.fipr.org/.)

4.8.3 Content selection (PICS)

The idea behind PICS was to give users control over censorship - particularly with regard to pornographic material. Commonly voiced concerns were that children using the Internet were exposed to "unsuitable" content. PICS technology was designed to enable parents to exercise control over the content their children could, either intentionally or inadvertently, have access to.

However the introduction of PICS has raised more ethical questions. Berleur, d'Udekem-Gevers and Rolin (1999: 40) summarise the contribution of PICS to content management:

> "PICS standards facilitate "*self rating* (enable content providers to voluntarily label the content they create and distribute) *and third party rating* (enable multiple, independent labeling services to associate additional labels with content created and distributed by others."

Their critique of filtering and blocking software notes six roles implied by filtering software (according to Resnick 1998):

1. Set labeling vocabulary and criteria for assigning labels
2. Assign labels
3. Distribute labels
4. Write filtering software
5. Set filtering criteria
6. Install/run filtering software

Of these six roles, the above authors point out that (1), (2) and (5) imply moral judgements. The article gives a comprehensive analysis of the many ethical aspects involved in such systems, but to give some examples; they ask "who is in charge of setting labelling vocabulary, assigning labels and setting filtering criteria?" Where third party rating organisations are concerned questions of reliability and trustworthiness are raised. If "self-rating", (e.g. parents customising their own software) are the rating labels well defined and in accordance with users value judgements?

These are not idle, or trivial, questions. Setting labelling vocabulary and filtering criteria involve value judgements which are likely to be heavily influenced by cultural preferences - even within one national culture people have different priorities concerning what is likely to cause offence. Filtering and blocking software can also be used to commercial advantage, for example Internet Service Providers (ISP's), or browser applications, could filter or block access to competitor's web pages. Discussion of these (and other) questions took place at the IFIP (International Federation for Information Processing) Fifth World Conference HCC-5 (Human Choice and Computers) and are summarised in Duquenoy and Whitehouse (1999) (in Appendix A:1).

Similar questions were raised in Thimbleby, Duquenoy and Beale (1998: 736, Appendix B:1), a paper summarising two high-level colloquia held in the United Kingdom. Additionally, the point was made that children's technical expertise is often higher than their parents, and "technically advanced children ... may well share successful methods with other children [to overcome technical regulatory systems]". This comment was also made in a report of the Economic and Social Committee of the European Commission (COM(97)582 final), in response to a Community Action Plan on promoting safe use of the Internet. The Committee also say they are "not convinced that the technological solution proposed by the Commission [PICS] is the most effective way of tackling a social problem."

4.9 Conclusions

The aims of this chapter were, in the first instance, to note the influence terminology has on ethical design; secondly to emphasise the importance of the role played by computer professionals (particularly designers) to Internet ethics - and underlying that to emphasise the need for ethical awareness in design; and finally to clearly show that solving ethical problems with technology is only part of the answer.

Section 4.2 introduced the idea that purely technical descriptions can mask the ethical implications of technology, thus furthering the belief that technology is morally neutral. It has been argued that the implications of such a view are serious in that designers, in particular, are relieved of any burden of moral responsibility.

The preceding overview of technological causes, and solutions to ethical concerns, shows that as endeavours are made to overcome these problems further issues can, and do, emerge.

In support of the counter-claim - that designers and others in the computing profession do have a moral responsibility - this chapter has shown how technology, far from being morally neutral, carries with it the values of designers. Tim Berners-Lee and the development of the World Wide Web is a good example. The driving value for the Web was openness and decentralisation. These values have been incorporated into the World Wide Web, so much so that they are commonly classed as its defining characteristics. His influence on the future of the Web continues through his involvement with W3C, the organisation which sets technical standards for its future development.

The "enabling" and "constraining" aspects of technology are acknowledged by Tim-Berners Lee, and are the subject of Lawrence Lessig's (1999) book. Lessig comments: "Technologies can undermine norms and laws; they can also support them". It is also possible that a preference for technical controls may replace legal controls (Berleur, d'Udekem-Gevers and Rolin 1999: 53). The trend towards self-regulation, advocated by international organisations and western governments, includes the implementation of the types of technical controls discussed in this chapter. Although the intentions behind the self-regulation initiative are given as empowering individual users, the shift from legal controls to technical controls may have the opposite effect. If we accept that in democratic countries the legal system is an expression of the will of the populace (i.e. devised by elected representatives of the people), the users have some influence on the controls that are put in place. If, however, technical controls become the favoured means of regulation, users' interests are in the hands of designers and corporate policies.

It is important therefore for technologists and computing professionals to be aware of the connection between ethics and design. Whilst it might be argued that computer professionals at the cutting edge of innovation and development are "busy doing the job" and "haven't got time to think of ethics", a concluding remark of the report on the series of rolling workshops and round table at the HCC5 conference in Geneva (Berleur, Duquenoy and Whitehouse, 1999: 26) points out:

> "The discussion served as a reminder that computer scientists' involvement with information technology, and specifically with the Internet, brings certain professional responsibilities."

This chapter clearly illustrates the impact of technological design in matters of ethics - demonstrated by the discussions regarding PICS, PGP and encryption (sections 4.7 and 4.8). Not only is technology specifically developed to combat ethical problems such as content regulation, privacy and security - thereby admitting to an ethical connection - but also the introduction of these "remedial" technologies have a further impact in raising other ethical problems.

In recognition of a need for promoting the case for "ethical design", the paper "Justice and Design" (Duquenoy and Thimbleby, 1999: in Appendix B:2) suggests how principles of fairness could be incorporated into a design framework, and compared the principles of Rawls' social contract with well established HCI design principles. In that paper this author suggested that:

> "The hypothetical model of a social contract brings an explicit ethical focus into our working world ... We believe that the notions, arguments and concepts presented by Rawls can be applied to the area of design, and that the resultant outcome is as beneficial to the "user society" as Rawls implies it would be to the "political society."
>
> (Duquenoy and Thimbleby 1999)

If ethics is important in our world, then raising the profile of ethics and its relationship with technology is equally important - given the dominant role technology plays in our lives. By promoting ethical discussion, via the conference route, and through the publication of the above paper in the proceedings of Interact'99, this author has contributed to this enterprise by explicitly introducing the subject of ethics and moral responsibility to computing professionals in the academic and research community.

Technological approaches to resolving ethical concerns can be helpful, and may be improved with some prior ethical thought. However, it should be remembered that fixing technology with more technology is not the only angle of approach - people are complex and computers are complex. A combined strategy is likely to optimise ethical outcomes.

Chapter 5

The impact of concepts on ethical thinking and behaviour

> *"Every human tool relies upon, and reifies, some underlying conception of the activity that it is designed to support."*
>
> (Suchman 1987)

> *"In general, our conceptions of computer technology will affect our policies for using it."*
>
> (Moor 1985)

5.1 Introduction

The previous chapter began by illustrating how a definition of the Internet in purely technological terms can factor out ethical considerations. This chapter takes the idea of ethical influences further, by claiming that analogies (and other descriptive devices) are similarly influential on ethical thinking. These explanatory strategies play an important role when faced with unfamiliar situations - choosing those that attend to the ethical dimension is important if we want to encourage an ethical environment.

In attempting to understand some of the complex ethical challenges of the Internet (one of the aims of this research) this chapter investigates the contribution of pre-conceptions to the "ethical muddle". This work[5] was inspired by James Moor's (1985) references to "conceptual muddles" and Walter Maner's (1996: 152) claim that:

> "The failure to find satisfactory non-computer analogies testifies to the uniqueness of these issues. The lack of an adequate analogy, in turn, has interesting moral consequences. Normally, when we confront unfamiliar ethical problems, we use analogies to build conceptual bridges to similar situations we have encountered in the past. Then we try to transfer moral intuitions across the bridge, from the analog case to our current situation. Lack of an effective analogy forces us to discover new moral values, formulate new moral principles, develop new policies, and find new ways to think about the issues presented to us."

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[5]The work presented in this Chapter is a development of ideas originally appearing in a paper "Internet Ethics: changing concepts, changing ethics?" (Duquenoy 2000), first presented to IFIP SIG9.2.2, Namur, January 2000, and later presented at the C@MDX conference at Middlesex University, in March 2000. The original paper is included in Appendix B.

Whilst agreeing with Maner that the use of analogies indicates we are looking at "something new", this does not necessarily mean that the ethical issues are new. The problem may lie in the weaknesses of existing concepts. Good concepts have a good match with the way the world presents itself to us, and should be useful. Cognitive science tells us that concepts are an abstract representation of the external world, which we use to understand and explain our environment. Concepts then, like hypotheses, have explanatory power.

Does the concept we have of the Internet adequately explain the environment we have constructed? What concept do we have of the Internet? Is it a computer network, a broadcasting medium, a publishing medium, or a communications medium?

The Internet has a broad range of functions and concepts may vary according to which function is being used. For some purposes the concepts used may be sufficient for the user. For some groups the general concept of the Internet as an interactive communications medium, or as an information source, is possibly quite adequate, as for example those users who simply want to email a friend or colleague, or search the World Wide Web for some piece of information. This description fits the course of events as they occur whilst "communicating" or "surfing". For other groups, technologists for example, the Internet is more likely to be represented as an interactive computer network, with the emphasis on physical connections and programming codes etc., and what they perceive it "as" explains how it behaves. That is, for this group there is a good correspondence between what it *is* and what it *does*.

However, there are levels at which these concepts do not appear to be adequate; ethics is one of them. Marcus Peschl (1999: 208) describes the goal of concepts as providing us with:

> "relevant information and representations for *generating adequate behavior, making reasonable decisions*, etc." (my italics)

From an ethical standpoint, if we ask the question "Does our concept of the Internet provide us with relevant information and representations for generating adequate behaviour and making reasonable decisions?" the answer seems to be "no". In an ethical sense is our concept of the Internet "*useful*?" Apparently not.

This chapter argues that the familiar points of reference used to explain and understand the Internet can, in many cases, distort ethical thinking and influence the ethical debate. For example, the analogy between post ("snail mail") and email ignores important differences, such as confidentiality. Deborah Johnson (1999) notes that "different conceptualizations compete for use" and, "the privacy conditions we come to think appropriate for email depend on which way we categorize and conceptualize it".

The example of email, and others, will be used to support the claims that the terms we use to describe the Internet, and the inferences we make, provide a conceptual frame of reference. In some cases the concepts are crucially lacking, and confusing in an ethical sense when transferred to the Internet context. The following sections show that these descriptive devices very often omit certain aspects of the Internet which can be crucial in the transfer of off-line ethics to the Internet context. In other words, our approaches to ethical reasoning are very often based on misconceptions about the characteristics of the Internet.

The perspective of this chapter is a cognitive one, and thus draws to some extent from the field of cognitive science. The underlying theme throughout the chapter is of conceptual frameworks, and the extent to which they correspond to the Internet environment - in this respect insights from research in Human Computer Interaction (HCI) can prove useful.

5.2 The role of concepts in setting a context

Concepts play a vital role in recognising and understanding the external world, an importance which is attested to by the breadth and depth of discussion given to the subject within the disciplines of philosophy and cognitive science. Acquiring a relevant concept may involve readjusting previous ideas: The Oxford Companion to Philosophy (1995: 146) tells us it is possible to " apply or ... misapply a concept, to extend it to new cases, to abandon it in favour of an alternative concept ..."

The impact of concepts and other explanatory strategies to ways of thinking and understanding is well understood within academia. For example, Norbert Kubilus (2000: 24), writing on the subject of usability states:

> "Cognitive psychologists such as Don Norman [*The Design of Everyday Things*, Doubleday, New York, 1994] tell us that the human mind processes new information based on observations and inferences - that is, the person forms a conceptual or mental model [which is the basis for user expectations]."

The Internet is relatively new, and when people try to explain new things it is often necessary to refer to other, familiar, occurrences to gain some mutual point of reference. How we think and speak about the Internet sets a context, which influences expectations regarding behaviour (what we are able to do, what we will be able to do) and the judgements we make.

The terms concept, metaphor, analogy and model are all used in some way to describe a mental framework - the latter three are often used interchangeably. However, it is important to note at least one distinction between these terms (as used in the current discussion): metaphors, analogies and models *lead to* the formation of a certain concept. That is, concepts, as they are discussed in this chapter are the *outcome* of information given by metaphors etc.

5.3 The contribution of metaphors, analogies and models to forming concepts

When we are faced with a new entity, as we are with the Internet, how do we begin to understand it? How do we explain it to others? What words do we use? What examples do we give?

Over the last few years the Internet, and features of the Internet, have been described in a number of different ways in an effort to aid comprehension of what is, after all, an entirely new idea. Some of the more extensively used explanatory strategies are metaphors, analogies and models. The aim of using such explanatory devices is to provide a conceptual framework of what the Internet *is*, and how it relates to existing structures in society. Naturally these explanatory devices have a powerful impact on setting a context, or "schema", which in turn impacts on ways of thinking and acting. Each of these terms, whilst performing similar functions, have different points of reference, described below.

- *Metaphors* are similar to concepts in that they evoke a mental picture, but different in their application. Metaphors are used to help build a concept by offering a familiar term which has properties that are similar to the new idea. Their importance in setting a context is noted by Steven Rose (*THES* 18 May 2001) in a recent review of *Metaphors of Memory: A History of Ideas About the Mind* (Douwe Draaisma 2001):

> "metaphors are powerful and sometimes dangerous, they can help science advance but they also shape our thinking in ways that can be unhelpful. Selfish genes and brains as telephone exchanges may fall into this last category."

Hugh Petrie (1979: 441) supports the importance of metaphors in providing a bridge between the known and unknown:

> "I believe an examination of metaphor will show that it does, on occasion, play this crucial epistemic role of rendering the acquisition of radically new knowledge intelligible. Analogies, models and exemplary problem solutions also sometimes perform this function and, I think, in very similar ways to metaphor."

Petrie (1979: 439) also warns that: "metaphors can be tremendously misleading".

- *Analogies*, as the previous quotation suggests, are also used extensively in learning to give a familiar frame of reference to the, as yet, unknown subject. By showing similarities between the known and the unfamiliar a picture of the new phenomenon can gradually be built. Margaret Boden (1987) tells us:

> "analogy enables one not merely to gather new factual knowledge about the novel phenomenon, but correlatively to *understand* or *explain* it, by relating it to the concepts already accessible in the familiar frame."

- *Models* play a similar representational role although they usually refer to systems:

> "Models are analogies ... Scientific or engineering models are representations, or likenesses, of certain aspects of complex events, structures or systems, made by using symbols or objects which in some way resemble the thing being modelled".
>
> (Chapanis 1961, cited in Wærn 1989: 96)

The above descriptions, as well as illustrating the cross-referencing which occurs between these terms and the important role they play in extending understanding, also substantiate the claim at the heart of this chapter - that these devices exert a powerful influence on ways of thinking. Such strategies can be extremely useful in developing knowledge, as we have seen, by bridging gaps between the familiar and unfamiliar. The degree to which they are useful as explanations, however, is directly related to the resemblance between the example and the new reality. In all cases misrepresentation can occur, causing problems to a greater or lesser degree depending on the particular role of the explanation.

> "We must remember that models are similar to, but not the same as reality. Some disparity will always remain between the model and the reality modelled. The difference may be less serious as regards some part of reality and more serious as regards other (sic) ... if a model does not fit a particular section of reality, the person will perceive a conflict. Conceptual conflict of this kind triggers conceptual activity ... This is one of the chief ways in which science proceeds."
>
> (Wærn 1989: 101)

5.4 Ethical reverberations

In his book *Cyborgs@Cyberspace*, David Hakken (1999) gives an anthropologist's perspective on the particular difficulties of conducting a critical analysis of cyberspace. He locates his discussion around the premise that society is in the midst of a "Computer Revolution" (CR). Early in the book he comments on the influential nature of ways of speaking to ways of thinking:

> "In an important sense, computing is a central myth or story of our times; that is, narratives about AIT [Advanced Information Technology] and what it implies for human life and society are central elements of the way those "colonizing" cyberspace think about the things important to them."
>
> (Ibid. 14)

One of many questions he raises is "What dangers follow the acting on inappropriate or doubtful understandings of cyberspace?" (Ibid.: 2). He sets out the theme of the chapter which "analyzes the ways *this talk hampers thinking* about cyberspace, such as its *speculativeness and its simplistic and distorting assumptions* about AIT" (my italics).

Not only does this type of rhetoric lead to "simplistic and distorting assumptions", it actively promotes "mythinformation" (using Langdon Winner's (1984) terminology):

> "The cultural site of CR Thought's most vigorous performances is advertising, a practice whose rhetorics, detached from the normal mechanisms by which people make sense of their world, are contemptuous of validity standards. While CR-related advertising taps into strong currents of desire and imagination, its imaginings promote "mythinformation" (Winner 1984) and discourage reflective thinking."
>
> (Ibid.:18)

On a similar theme, but with the application of law in mind, Mawhood and Tysver (2000: 96) pick up on the role of language: "New technology leads to new words, some of which can mislead us. In particular with the Internet is the notion of

cyberspace." They go on to remind us that "cyberspace is not a real place", and that people and their activities are still governed by laws.

Having an accurate account, or accurate representation, of a state of affairs is fundamentally important to sound ethical reasoning. In the absence of knowing, others will make decisions on our behalf. Computer software is a case in point:

> "Policy makers, in a sense, *made* computer software what it is by deciding how to treat it legally. Deciding that copyright applied, defined software. Later deciding that patent law applied to certain types of software also defined it".
>
> (Johnson 1999: 4)

This chapter has so far introduced different forms of mental representations, and the role they play in "getting to grips" with new phenomena. It has shown that the purpose of these strategies is to inform, but that they can also "mis-inform". The following sections illustrate, with examples, the potential effects of misconceptions on ethical thinking and behaviour. The examples begin with the concept of "cyberspace" which generates the impression of an environment within which Internet activities happen. The discussion then moves on to more particular instances of metaphors, models and analogies and their usefulness in providing a conceptual framework for ethical thinking.

5.4.1 The concept of Cyberspace

The term "Cyberspace" is extensively used when referring to the Internet, and conjures up a concept of some non-physical area, inhabited for instance, by "cyborgs" (cf. David Hakken, *Cyborgs@Cyberspace*, 2000), or "cybercitizens". This description evokes an image of some separate place (separate that is to the "real world" we inhabit) and indeed many writings about the Internet are littered with the expression "real world" when making a distinction with events, or behaviour, on the Internet. References to a "new frontier land" (Barlow 1994), contribute to this notion of a separate place, as does Kevin Kelly's "disembodied cyberspace where messages interact" (Kelly 1996: 76).

The consequences of a separate "world" concept can be problematic from an ethical standpoint. There is an implication that the same social rules do not necessarily apply in Cyberspace. For example, Wendy Grossman talks about trying to "define the rules in the grey area where real life and cyberspace intersect." (Grossman, 1997 Net.Wars, Introduction). Further implications of different rules for cyberspace can be inferred from the organisation "Cyber-rights and Cyber-citizens" (http://www.cyber-rights.org/).

James Moor (1999: 7) points to the behavioural consequences of this type of rhetoric:

> "This semantic flexibility that is so useful for simulations, may mislead some into thinking that computer processes are always mere simulations or unreal in some way... A promise sent over e-mail is a real promise. One cannot get out of the promise by claiming that it was only a virtual promise and not a real one. Similarly spending cybermoney to buy merchandise is really spending money."

> "When cyberactivity is regarded as unreal or disconnected from the real world, then norms may not seem to apply and responsibility may lose its grip."

In other words, we may become "disconnected" (paradoxically) and thereby alienated from personal responsibility and socially responsible behaviour (see for example, Turkle 1996). In the "off-line" world sanctions (i.e. laws) play a major part in directing behaviour, but as Lessig (1999: 233) reminds us, presenting an image of a separate place falsely represents the interconnectedness of the "virtual" world with the "real" world:

> "By speaking as I have about the code in cyberspace, by describing how government might regulate that code, by making it seem as if the worlds I am describing were in some sense elsewhere, I have obscured an obvious and critical point that the Y2K crisis makes real: code is not elsewhere, and we are not elsewhere when we feel its effects. As Andrew Shapiro puts it: "Seeing cyberspace as elsewhere ... misconstrue[s] its legal significance ..."

5.4.2 The "Information Superhighway" metaphor

The most commonly used metaphor in conjunction with the Internet is "Information Superhighway". The original idea - promoted by United States Vice President Al Gore in 1993/4 (Barrett 1997, Beckett 2000) - aimed to capture the notion that parallels could be drawn between the government funding for the communication routes of the Internet and America's interstate highways. However, Beckett (2000: 16) also notes its limitations as an explanatory device:

> "In this sense, the metaphor is true, but it provides no help in explaining the later development of the Internet, after the government withdrew its funding ... and has no relevance to how the network actually works. In other words, the concept of an information superhighway is actually very little use in explaining the current global electronic network."

What the above quotation does show is that a metaphor can be useful to explain something at a particular level, but that does not necessarily mean it is appropriate, or even useful, at another level - for instance, in understanding ethical behaviours or consequences.

According to Ladd (1997: 10) not only is the reference to Information Superhighway "sloppy", it is also "conceptually incongruous" and "dangerously misleading". Ladd goes on to say that the Information Superhighway is far from "toll-free", and unlike the free choice we have in what car we drive, how we use the Internet is directed by Bill Gates and Microsoft.

However, be that as it may, this metaphor does capture the idea of the movement and flow of information, travelling from one place to another - which may account for its general acceptance. The "highway" notion has also been taken up in a European initiative - the "European Computer Driving Licence" (ECDL) - a training programme of computer competency available to all (www.ecdl.co.uk). Parallels with the driving licence idea run through the course details, using such terms as "log books" and "test centres". This initiative serves to illustrate the impact of metaphors, and how important it is to make sure they are appropriate. We can see that ideas which capture the imagination are built on, and have offshoots in unexpected ways. Interestingly, there is no mention of ethics, or social responsibility, in the ECDL syllabus (although there are references to security and privacy issues).

5.4.3 The "snail mail" analogy

It may have been helpful in the early days of email to liken it to the more familiar postal service, explaining that the message is split up and sent in different packets, by different routes, to the same address and re-assembled upon arrival. This is functionally true (although very much simplified). What this explanation leaves out, however, is a crucial factor as far as the ethics of the situation is concerned - that is, the integrity of the system to carry the message safely and privately to the delivery address. Trust in the postal service is generally taken for granted, and the procedures which have been put in place over time are on the whole not thought about when we use the service. It is an offence, in the United Kingdom at least, to "interfere" with The Royal Mail. From the time the package leaves the sender to the time it arrives at the addressee it should not be opened, and in most cases it is not. There is a cultural respect (supported by legislation) for a sealed postal packet. As Neil Barrett (1997: 40) says: "A sealed envelope marked 'private and confidential, addressee only' is usually treated as sacrosanct". This is not the case with email.

Similarly, the term "junk email", although grasping the essence of "junk mail" in its nuisance value, differs in important ways from the junk mail which arrives through the letter box. The burden of cost has shifted from the sender (in the case of postal mail) directly to the recipient, either in financial terms (which may vary according to individual arrangements for Internet access), or in terms of personal time taken in downloading, reading and sorting. (Junk "post" is more easily recognised, takes less time to sort and dispose of.) The decrease in cost to the sender has resulted in an increase of junk email, which is not only a nuisance to those receiving these messages, it takes up bandwidth and can cause havoc to servers. Taken to extreme, large quantities of "junk email" can be sent in a deliberate attempt to cause disruption - as in the case of virus attacks resulting in "denial of service" by Internet Service Providers (e.g. Electronic Telegraph, Issue 1721, 10 February 2000). Junk email also raises questions about privacy - to send an email requires an email address which is "individual specific", whereas mail through the door can simply be addressed to "the occupier". There is, it seems, a greater ethical problem with junk email than with "post".[6]

The introduction by the UK government of the Regulation of Investigatory Powers (RIP) bill during 1999, highlighted some important differences between the postal system and email. The aim of this Bill is to allow law enforcement officers the power to read emails. They argue that just as they have the power in certain circumstances to intercept mail (in cases of suspected criminal or treasonable activity) they should similarly have this power in the case of digital communications. However, whereas in the postal system they can intercept mail, in the digital system the correspondence is more analogous to the telephony model - in which case it is not interception but rather "phone tapping" which is occurring. In the final analysis it may prove to be unimportant to the debate which process ("interception" or "eavesdropping") is the right one to use. Alternatively, it may prove crucial in an ethical sense. The words "interception" and "eavesdropping" are carried over from previous contexts, and infer different things. It is important to be sure exactly what is under discussion. Deborah Johnson (1999) observes:

> "We have to clarify what is involved in the activity in order to know what norms are appropriate. Needless to say, how we understand the activity makes all the difference in our evaluation of it."

[6]The nuisance aspect of junk email has now been acknowledged and legal steps have been taken which restrict the sending of junk e-mail (see http://www.dataprotection.gov.uk/).

If we are using analogy to understand and explain something, it is important to i) choose appropriately, and ii) be clear about the extent of the correspondence, i.e. what aspects of the analogous situation match the current one, and in what respects the analogy differs. In the case of email, Barrett (1997: 39) suggests a better analogy would be the "post-it" note, which is spontaneous, informal, intrudes into the working space (and demands swift attention), and which is also visible to others (i.e. not considered private). It is interesting to consider whether, if this analogy had been taken up and accepted as an example of what email was all about, whether the ethical concerns of privacy and intrusion would have arisen.

> "Is sending an email message more like sending a postcard than having a phone conversation or sending a letter? *The privacy conditions we come to think appropriate for email depend on which way we categorize and conceptualize it*" (my italics).
>
> (Johnson 1999)

This section has suggested that analogies can be helpful in giving the "essence" of something new, but notes that care should be taken with how much of the analogy is appropriate. Re-introducing ethical properties (such as trust or privacy) to analogies and similar devices may reconcile some of the differences, and problems which result from inappropriate expectations.

5.4.4 Transferring models

Models are used to describe systems. Examples of models which have been used to describe the Internet are: the broadcasting model which describes the transmission of aural and visual output to the public domain (television and radio), the publishing model which describes the system of printed output to the public domain (books and other publications), and the telecommunications model (describing person to person communication). The Internet is said to depict the convergence of these three models.

Although broadly speaking these three models (broadcasting, publishing, and telecommunications) are applicable to the Internet, there have been difficulties in transferring the regulatory aspects of these models to the Internet context. The models represent industry sectors which have evolved over a period of time, along with control mechanisms to protect the public. The regulations which have been put in place were developed within, and appropriate to, a particular context. In other words, the environment within which these sectors operate had a direct bearing on the form of the regulation, and means of enforcement.

The environment of the Internet is, from a regulatory point of view, very different from the environment within which these sectors evolved. Therefore, whilst the

principles behind the broadcasting, publishing and telecommunications models apply to the Internet (i.e. transmission, printed output and person-to-person communication), the regulatory mechanisms do not. The lack of regulation, and the difficulties in applying the right sort of regulation, has become part of the ethical debate of the Internet. Particular issues which arise in this respect are:

- Easy access to "harmful or offensive" material (by children in particular)
- Intellectual property issues (copyright, trademarks), libel
- Interception and eavesdropping

The following examples take the three sectors in turn, and show how the above issues have been addressed in their original environment.

In the case of broadcasting, regulatory bodies exercise a certain amount of censorship, not only in respect of content, but also regarding the appropriate time for the broadcast. In the UK there is a 9 o'clock watershed. Programmes considered unsuitable for children are broadcast after that time. The assumption is that children will be in bed after 9 o'clock. Even if this is not the case, parents are aware that programmes after that time may be inappropriate for their children and they can make their own decisions whether they want their children to watch or not.

Similarly with publishing. Some governments exercise censorship (particularly with regard to pornography), and measures are taken to prevent children from accessing "unsuitable" material (whatever "unsuitable" may mean to different nations). To give a UK example once again, "adult" magazines are usually displayed on a high shelf in stores, out of reach of young children. Other aspects of publishing where regulation provides protection are in the areas of copyright (protection for the author or publisher), and libel (protection for individuals). In both of these areas the Internet is causing problems, not because society does not understand what copyright and libel are, but because transferring existing regulatory measures is practically difficult.

The difficulties with the telecommunications model have been discussed above (5.4.4) in connection with the RIP Bill. Whereas "phone-tapping" and "eavesdropping" by law enforcement agencies are currently allowed, applications have to be made and permission has to be sought before this can be done. An argument was made in the public discussion forum "Scrambling for Safety"[7] that because the practicalities of "eavesdropping" by law enforcement and government agencies is easier on the Internet, technically speaking, than previous

[7] http://www.cl.cam.ac.uk/~rja14/sfs98.html

telecommunications methods, there would be a higher incidence of its use - which would not necessarily be in the public interest (see for example, the report on interception capabilities by Duncan Campbell, 2000).

5.5 Conclusions

These formative years of the Internet have produced a number of descriptions of its various aspects, each trying to grasp some essence of what the Internet means, both in itself and the functions it performs. This chapter has endeavoured to show that whilst some of these descriptions might get part, or even most, of the message across, they can also be misleading in what they leave out. Analogies, metaphors and models may describe certain parts of the systems (for example written communications, or data flow) but, by definition, they do not capture the whole picture. Camp and Chien (2000: 18-19) in an essay that argues for a spatial metaphor rather than a "media" metaphor, state:

> "If a metaphor is to be used to describe the Internet, it must be a metaphor as rich as the Internet itself. Yet no metaphor will have the same set of boundaries as the Internet or the same issues ... Spatial models offer a subtlety and complexity that are lacking in media models."

The point of this chapter is not to infer that these descriptive devices could, or should, provide a thorough representation, but rather to show that what is left out of the description may be relevant to the way we visualise the ethical environment of the Internet. For example, it has been suggested that to incorporate some idea of the boundaries of privacy with regard to email; post-it notes, or postcards would be a more appropriate analogy.

Taking Walter Maner's (1996) position on the "uniqueness" claim as a starting point, this chapter has attempted to show that difficulties with finding adequate analogies for computer-ethical issues does not necessarily imply a revision of moral standards or values. By showing where the divergences occur between the explanatory devices (metaphors, analogies and models) and the new phenomena to be explained - the Internet, this author has suggested that "ill-fitting" concepts are part of the problem. The following quotation, which pertains to HCI issues, illustrates the importance of the correspondence between a user's conceptual model and what *actually* happens:

> "successful e-commerce web site development depends on achieving congruence between the user's conceptual model of the web site itself and how the web site delivers information"
>
> (Kubilus: 2000)

The difficulties we have had in coming to terms with the Internet in an ethical way, from the viewpoint presented here, can be described as symptoms of a transference between what may be called an analogue view of the world and a digital perspective - resulting in tension and conflict at the "edge" of change, as described by Mark Stefik (2000). In bringing out the misleading character of the terms we use, this author has presented an alternative viewpoint which places some of the difficulties of Internet ethics at the door of human misperceptions rather than inadequate, or outdated, ethical theory (as suggested by Maner 1996).

Chapter 6

Regulation of the Internet

> *"What is most wonderful about the Internet, its free-wheeling spirit of democracy and innovation, is also the source of one of its potentially fatal flaws. The Internet is a co-operative commonwealth. There are no police and no punishments."*
>
> (Miller 1996: 52)

6.1 Introduction

The previous two chapters have shown influences on ethical thinking and reasoning in the Internet context, and have shown, with examples, that some of the problems in the Internet debate are technology based, or conceptually based. This chapter continues the theme of ethical influences by emphasising the role of regulation in establishing an ethical context.

The topic of regulation relates to ethics in that it concerns behaviour - legislation and codes of conduct not only set standards for behaviour, they attempt to control behaviour through sanctions. According to David Pullinger (2001: 3):

> "Ethics are the principles of behaviour which underlie the decisions and behaviour that create good and fair societies in which all human beings flourish."

The above description can be useful to illustrate the link between ethics and regulation, that is:

- ethics as principles *of* behaviour ...
- regulation as recognising and establishing principles *for* behaviour

Thus regulation has an ethical influence in setting out the values of a community, and in applying sanctions regulation could be described as a tool for ethics. The problems which this chapter addresses relate to both aspects, setting values and providing a tool for ethics.

Regulation contributes to the confusions of Internet ethics in at least two important ways: one is the question of *whether* the Internet should be regulated at all, and the other is *how* it can, or should, be regulated. This latter consideration refers to the practicalities of applying legal measures to a digital domain, and the cross-cultural difficulties of meeting national and international needs.

These two questions have formed the basis of discussion for many of the meetings attended by the author during the research period. The first was the IFIP SIG9.2.2 rolling workshop and round table initiative at the IFIP-TC9 HCC-5 (Human Choice and Computers) International Conference in August 1998. The role of the author during the three days of the conference was to act as rapporteur, summarising the discussions of each round table before the next one took place, and gathering topics for further discussion from the participants between the events. After the conference the author produced a written report of the proceedings, and the ethical questions raised. This report has since been circulated as a monograph to IFIP members (such as the British Computer Society) as well as outside of the IFIP group (such as The European Commission General Directorate "Information Society"[8]), with the aim of promoting understanding and further discussion. The author was also requested to submit a paper based on the report for the Proceedings of the conference (Duquenoy and Whitehouse 2001). Both the report and the paper are reproduced in Appendix A and B respectively.

The second series of meetings the author was invited to attend, which addressed the same questions, were under the auspices of EURIM. The working party on Network Governance was formed to "seek to define regulatory/self-regulatory issues and principles ..." with a particular focus on the EU E-Commerce Directive. The contribution made by this author to the working party was a draft briefing paper which formed the basis of discussion in a full consultation meeting. The final, amended, version appears in Appendix B. The period of this work was September 1998 to November 1998.

Other public meetings attended by the author concerning these regulatory questions were:

- Debate at Oxford University - April 2000.
- "Scrambling for Safety" - a public forum concerning government regulation and encryption (September 1999, London School of Economics).

The UK government has promoted discussion during this period, issuing consultation documents and playing a part in the consultation process. The importance given by the UK government to the role of discussion and consultation between experts, from academia and industry, is indicative of an area fraught with difficulties. Even with this input from experts, and prolonged debate and discussion, the Regulation of Investigatory Powers (RIP) Bill - presumably drawn up by some of the best legal

[8] IFIP SIG9.2.2 Minutes Namur, January 2000.

advisers to the government - has been heralded as "...so misguided as to be practically unamendable. It would be better for 'the economic wellbeing (sic) of the United Kingdom' to throw it out" (*The Sunday Times* 12 June 2000).

The principal aim of this research has been to bring some clarity to Internet ethics. The extent of the debate on regulation is evidence of the complexity of the Internet environment, and making any headway towards unravelling the picture is clearly a challenging task. Keeping within the scope of this research, this chapter uses the perspective of regulation to draw out differences between the on-line and off-line environment.

Beginning with the influences on ethical behaviour, Section 6.2 illustrates the background feeling, or atmosphere, regarding constraints on behaviour as far as the Internet is concerned, and Section 6.3 gives the relationship between regulation and social standards. The first relates to influences on ethical thinking and the provision of an ethical environment. The idea that the Internet is unregulated, and some kind of new frontier land, was introduced in the previous chapter. This notion also has a bearing on how extensive regulation is likely to be - there is a certain amount of public pressure against regulating the Internet. Secondly, regulation sets an ethical tone by making explicit what behaviour is acceptable, and what is not.

Using regulation as a tool to help clarify the situation, Section 6.4 uses examples of recent legislation to bring out the differences between the off-line environment and the Internet. This section concentrates on the legislative moves over the past five years, which are indicative of an attempt to re-establish off-line regulation in the on-line world. Thus the difficulties and controversies raised in the process are useful in highlighting differences between the two environments. The law is useful in this respect in that the preciseness it requires forces ideas to be clarified and clearly defined.

Section 6.5 uses these examples to shed light on the "new issues, old issues" controversy. Taking the perspective of regulation is also useful in shedding light on one of the underlying claims of computer ethics - the "new issue versus old issue" debate. In the same way that looking at analogies and metaphors can help to unravel some misconceptions, looking at regulation can help in unravelling the "new issues/old issues" confusion. This particular analysis does not claim to be a definitive study of all ethical issues, nor an extensive survey of legislation. The point is simply to utilise regulation as an investigative tool - in this instance to assess the issues that are being discussed under this banner, and use the opportunity to make a start on

some clarification. "Old" ethical issues can more easily be recognised, and at least may be put to one side in the "old" versus "new" debate.

6.2 Perceptions of Internet regulation

The Internet is perceived as being unregulated (Foresight 1998: 7). The popular perception of the Internet as a separate territory almost, certainly as promoted in the early days of the Internet, gives the impression of an anarchistic "new land".

> "The Internet comes with a natal myth of cynical anarchism, springing partly from its nature and partly from its US origins."
>
> (Johnston and Acquaah-Gaisie 1999: 94)

This impression of an "unregulated Internet" still holds today. Two debates held in the UK (April and September 2000) passed the motion that the Internet should remain unregulated. The results of both debates were reported under the following headlines "Internet regulation 'a threat to civil liberties'" (*The Guardian*, May 3, 2000) and "Should Big Brother control the Net?" (*Computer Weekly*, 21 September 2000). The outcomes of these two debates are interesting in that they reflect a general trend towards a light touch as far as regulation is concerned, despite grave concerns regarding security of data, privacy, etc.

The first debate, held at Oxford University, upheld the motion that "this house believes any attempt by government to police the internet is unworkable and a threat to civil liberties". It should be noted that there was some confusion regarding the wording of the motion, the proposers claiming that the motion implied "any *extra* regulation [than that which is already in place outside of the Internet]". The opposition put their emphasis on "*any* attempt by the government to police the Internet". On this latter interpretation the Internet is presumed to be currently beyond the reach of law enforcement and, furthermore, any such law enforcement would constitute a threat to civil liberties - this shows an interesting distinction between the off-line and on-line environment.

The second debate was held at the Real Time Club (members of the UK ICT industry), putting forward the motion that "Control of the Internet by governments is imperative for the well being of society". The motion was lost. This is not entirely surprising, it is unlikely that any person in a democratic country would subscribe to the idea that such a powerful communications media should be *controlled* by government.

Taking the notion of regulation in broad terms, Lawrence Lessig (1999) makes the very astute point that in fact the Internet is regulated - by programming code. That is, the technical underpinning which can either allow or constrain certain actions - a type of "invisible" regulation, at the moment decided by computer professionals, but open to influence by government (or indeed corporate) policy. However, the quote by Steven Miller (1996: 52) at the beginning of this chapter captures the more commonly held notion of Internet regulation by saying: "There are no police and no punishments".

In summary, discussions centering around regulation take as their starting point an "unregulated Net". From that point there are those who believe it should stay that way (for example, groups of "cyber-libertarians" (Winner 1997)), and those who think *some* regulation is in order (to the same extent that regulation applies to non-Internet activities). As the editorial in the *New Scientist* (8 May 1999) so aptly states:

> "To say that governments and their law enforcers should stay out of cyberspace is as naive as saying they should stay out of city centres ... The Internet may be the cleverest infrastructure the world has ever known, but it is not a world apart."

Despite the anti-regulation campaign, regulation is in place on the Internet. As well as the technical codes referred to by Lessig (1999) there are less formal codes, or agreements, in place. Organisations very often announce codes of practice, and privacy policies, and users are commonly asked to agree to terms and conditions in order to subscribe to some services. Self-regulation (or co-regulation, a term popular in recent months) is the order of the day, promoted by politicians and organisations (see Ministerial Conference, Bonn, 1997; OECD, 1998; United States Department of Commerce, 1998). IFIP SIG9.2.2 "regards the opposition between private and public regulation as something to be overcome, and recommends a deeper cooperation of both sectors in the domain of governance" (Berleur 1999:12, see Appendix A:1). A recent report from the UK government (e-commerce@its.best.uk),

> "... recommends a light regulatory touch. Enough to build confidence in the new way of doing business and to protect consumers, but not so much that we stifle innovation, creativity and entrepreneurship and drive industry overseas."
>
> (Foreword by Prime Minister Tony Blair)

6.3 Provision of an ethical environment

Following the themes of the previous two chapters, which illustrated how a lack of ethical context affects ethical thinking and practice, the purpose of this chapter is to show a missing "ethical infrastructure" in the regulatory domain. This idea is similar

to James Moor's "policy vacuum" (1985), but differs in scope. An ethical infrastructure, in this thesis, consists of those elements which together provide an ethical context, or environment (including conceptual understanding). An important part of any ethical environment are standards and norms. Therefore, one way of setting an ethical context is through setting standards and establishing norms, thereby encouraging or discouraging certain behaviours. The policy vacuum referred to by Moor, is purely about the rule-governing aspect of influencing behaviour. When Moor originally introduced the idea of a policy vacuum in 1985 the discussion was based on computer ethics, since then, however, the Internet has driven the debate beyond policies to regulation, which Moor recognises in a more recent article:

> "Policies are rules of conduct ranging from formal laws to informal, implicit guidelines for action. Policies recommend kinds of actions that are contingent upon different situations."
>
> (Moor 1999: 65)

That is, there has been a move from a somewhat "soft" idea of policies, to regulation which carries a much "firmer", more concrete, connotation. Early attempts to influence behaviour can be seen in the rules of "netiquette" which were popular in the formative years of the Internet. This was probably sufficient in those times when there was a sense of community spirit, but in recent years concerns about privacy, security and other issues, together with the e-commerce incentive, have provoked a call for more formal regulation.

To place the discussion in the context of the Internet, rather than computer ethics, this chapter has loosely translated Moor's term "policy" to "regulation". Part of our ethical infrastructure is regulation.

The claim of this thesis is that many of the difficulties of Internet ethics are due to the lack of an "ethical infrastructure". In respect of this claim, the work of this chapter is to consider the affect on the ethical debate if the regulation which exists in the off-line world could be transferred to the on-line world. (That is, if the regulatory infrastructure which now exists off line was in place on line would there be the level of ethical debate concerning the Internet than there currently is?) Are the ethical problems simply the practical difficulties of applying (and enforcing) regulation? The following section shows how legislation over the last five years has attempted to transfer the regulatory aspect of "real-world" ethical infrastructure to the "on-line world".

By looking at attempts to legislate we can perhaps draw some comparisons which may establish where the breakdowns occur, and if the issues are new ethical issues, or transformations of old issues.

6.4 Regulation and the Internet

Within the Internet context regulation (either formally as legislation, or informally as codes of conduct or guidelines) performs a number of functions. It serves as an infrastructure for the "practice of ethics". Implicitly regulation is a formal expression of social values (Holvast 1996), and provides a platform from which ethical practices can take place. Explicitly, and in a practical sense, this author interprets regulation as a response to ethical concerns, a formal mechanism for the application of sanctions and a strategy for the development of trust. This suggestion is supported by the conclusions in the previously mentioned UK government report (e-commerce@its.best.uk), which addresses the aspect of trust. The report considers the following issues to have a direct bearing on trust:

- fear of fraud
- concerns about privacy
- anxiety about content
- doubt about legal liability
- worry about how redress can be obtained when things go wrong

The action identified by the report needed to overcome the above concerns is to:

> "implement standards, supported by effective enforcement and provide appropriate education."
>
> (e-commerce@its.best.uk: 69)

The above implies regulation of some description, whether self regulation (setting standards and codes of conduct or practice), or legislation (effective enforcement).

6.5 Self regulation

The evolution of the Internet, in regulatory terms, has seen a gradual progression from user-determined regulation (for example, netiquette), to favouring self-regulation, and in recent years to attempts at more formal legislation. Self regulation has been promoted as a compromise in keeping the free spirit of the Internet, and in practical terms, allows greater flexibility when dealing with personal ethical choices (such as the censorship of pornography). EURIM, in an advisory paper on self-regulation (see Briefing No. 25, Appendix A:3) advocated self-regulation as a suitably dynamic, adaptive, fast, enforceable, responsive and economically attractive

means of control. In the same paper, legislation is seen as too slow and cumbersome and recommended as a "last resort". The speed of technological development is one of the main factors in favour of self regulation, and against legislation.

> "The task force report on e-business said that the pace of technological change is one of the main difficulties in regulating the internet, and that attempts to enforce national legislation may be impractical."
>
> (Kevin Brown and Jean Eaglesham, *Financial Times*, Dec 15th 2000)

Self regulation has thus become the order of the day, partly in recognition of the need to develop trust, and spurred on by the threat of government intervention (Rolin 1999). Consequently, there has been a move by a number of organisations to develop codes of conduct, and make clear their terms of service. As discussed in Chapter 4 (technical aspects) privacy is a particular concern of users, and many web sites now make their privacy policies available to users.

However, work on codes of conduct appearing on the Internet currently being undertaken by IFIP SIG9.2.2 (work that this author has been involved with), shows in many cases idealised principles and a lack of sanctions. Without sanctions codes of conduct are of little value - if they are to achieve their intention, i.e. to promote trust, they need to be credible.

> "These codes should meet community concerns and industry needs and operate as an accountability system that guarantees a high level of credibility and quality."
>
> (Bertelsmann Foundation Memorandum, p.23,
> cited by Marie d'Udekem-Gevers 2001[9])

6.6 Legislation

A number of legislative attempts have been made to address some of the ethical concerns raised as a result of computer technology over the last five years. For example:

9 In Annex 1 of the IFIP-SIG9.2.2 meeting, January 2001.

Table 4: Examples of legislative attempts regarding Internet issues since 1996

Issue	Legislation	Date
• Pornography	Communications Decency Act (CDA) (United States) European Green Paper "Protection of Minors and Human Dignity"	1996 (but declared unconstitutional in June 1997)
• Personal data	Data Protection Act (UK)	1998 (updated from 1984)
• Surveillance	Regulation of Investigatory Powers Act (UK)	2001
• Security/trust	Electronic Communications Act (UK)	2000
• E-mail	Human Rights Act (UK)	1998 (in force from 2000)

Identifying where the breakdowns occur, i.e. the difficulties raised, can be helpful in assessing the differences between off-line regulation and on-line regulation.

To gain some insights into the areas of breakdown, we can take each of the pieces of legislation mentioned above and see where the tensions occur:

- The Communications Decency Act, instigated to address the issue of easy access to pornography, and eventually discarded as being unconstitutional, highlights the difficulties of applying different standards to diverse groups. In this instance the diversity is to do with age, i.e. what is considered suitable for one age group and not suitable for another (adults and children).

> "A panel of federal judges in Philadelphia ruled unanimously that the CDA was a violation of the First and Fifth Amendments. ... The Supreme Court ... declared that this federal law was unconstitutional. ... "In order to deny minors access to potentially harmful speech, the CDA effectively suppresses a large amount of speech that adults have a constitutional right to receive and to address to one another.""
>
> (Spinello 2000: 49)

- The European Green Paper on the Protection of Minors and Human Dignity in Audio Visual and Information Services (1998) recognises areas of agreement between the member states for outright prohibition on certain kinds of material (e.g. child pornography), but at the same time observes that "the terms used and the degree of precision of national legislation vary widely". In recognition of the global reach of communications networks and the restricted scope of applying national legislation the paper recommends minimum government interference, and opts for a combined approach of raising user awareness alongside technical fixes, such as PICS.

- The Data Protection Act in the UK, although introduced in 1998 only came into effect as from March 2000. This Act is an update of the 1984 Act, and specifically takes into account technological developments. Data subjects, for example, have additional rights such as:

  - the right to know the logic behind automated decision making
  - the right not to have significant decisions based solely on the results of automatic processing
  - the right to prevent processing for the purposes of direct marketing

  The transfer of data within the European Economic Area is freely allowed, but outside of that area data may only be transferred if other countries ensure an "adequate level of protection for the rights and freedoms of data subjects" (Elizabeth France, Data Protection Registrar 1999). This latter requirement has been the subject of some debate regarding the exchange of personal data with the United States. The difficulties raised in this instance have been in aligning European and United States approaches to data privacy. The United States is promoting self-regulation, whereas Europe seeks a legal "appropriate level of protection" (Berleur 1999). To overcome the difficulties of exchanging personal information between EU countries and the United States a "safe harbour" principle has been introduced, whereby information can be exported to those companies whose privacy principles are in line with European requirements (*The Economist*, January 13th 2001).

- The Regulation of Investigatory Powers Act (RIP) has proved extremely controversial (see for example the reports from "Scrambling for Safety"). In trying to meet requirements for crime prevention (i.e. police access to communications) the Act is accused of threatening personal privacy. In an open letter (with 49 signatories including the Internet Society and Amnesty International) the opponents of the bill claim:

  > "The ability of Government to demand decryption keys creates a dangerous precedent which will affect the rights of all computer users. Surveillance of website visits will undermine confidence in the Internet ... "
  >
  > (*Daily Telegraph*, 12 July, 2000)

  The most difficult problem in the case of this piece of legislation is facilitating the government's traditional right of access to communications in order to prevent criminal or terrorist activities. The problem is a technical one: for government

agencies to be able to decrypt a message they will need a key. How they access that key is the moot point. As the Act stands key owners are required by law to provide the key upon demand, and unless they can prove they never had one (which might be true), or have forgotten the code (which is also plausible), they may face a prison sentence. Opponents point out that this puts a burden of proof on citizens, which goes against the traditional principle of "innocent until proved guilty", and claim the Act is in violation of the Human Rights Act.

- The Electronic Communications Act (originally referred to as the E-Commerce bill) first raised the contentious encryption issue with regard to digital signatures - seen as vital to the success of electronic commerce. Having suffered a number of delays, the original plan to give security forces mandatory rights over encryption keys was dropped (leaving them the power, however, to demand keys). The technology that enables identity verification, so important to conducting commercial transactions, has also proved a security nightmare for law enforcement agencies.

- The Human Rights Act (UK) has one particular section which is directly in conflict with both the Regulation of Investigatory Powers Act and the Electronic Communications Act:

> "... on the one hand ... giving employees the right to keep personal correspondence at work, including e-mail, private. On the other hand, a code of practice issued under the controversial Regulation of Investigatory Powers Act (RIP) gives employers wide powers to read all communications in the workplace."
>
> (Chris Partridge, *The Times*, 19 October 2000)

From the above examples we can pinpoint where some of the trouble spots arise:

- a diverse age range which raises problems in managing content
- a diverse cultural mix (international audience) with diverse opinions concerning definitions (e.g. pornography), thus inhibiting broad-based international legislation
- differing national standards and approaches to, for example data protection, which has a bearing on international trade
- technical constraints (as in decrypting communications) which severely limit government surveillance practices
- the magnification of tensions between the rights of the individual versus the national interest (as in the RIP Act)

6.7 Distinctions between "old" and "new" issues

Taking the *issues* covered by legislation (pornography, personal data, surveillance, security/trust and email) a similar analytic approach can be used to determine whether they are new or challenging to traditional ethics (as referred to in Chapter 2), or whether the difficulties lie more in the domain of "managing" ethical behaviour.

To take the issues in turn:

- Pornography is an issue which has a long history. From the legislative point of view there are the usual problems concerning what constitutes pornography. However, these boundaries have already been drawn in pre-Internet regulations. The point of breakdown in the Internet context (as shown in the previous section) is the access to this material by minors - the way to prevent access through legislation is by censorship which conflicts with freedom of speech issues (a value which has high priority in most of the western world).

- The collection and manipulation of personal data has for a long time been considered dangerous in the wrong hands, the difference with computer technology is that it is easy to do (less labour intensive, faster, and financially viable). Combining personal information, thus providing a personal profile, raises a privacy issue. Privacy has become one of the most talked about issues in the computer ethics/Internet ethics literature. Although the notion of privacy is not new (there are laws against trespass, "peeping toms", stalking; and the previously discussed special warrants to conduct surveillance and interception of mail), the boundaries between public and private are not clear on the Internet (as we have seen with email). The Internet can accommodate private and public communication, but there is an overriding impression that because the Internet is a "public space" the very fact of being "on the Internet" brings exposure. A similar point of view is sometimes put with regard to public figures and the press - if you are a public figure you must expect public exposure.

- Surveillance has always been considered sufficiently intrusive to be warranted only under special circumstances (hence in the United Kingdom the legal requirement for law enforcement agencies to obtain special permission to conduct such activities). Technology has made surveillance progressively easier (as evidence, consider how surveillance would be carried out without technology) and, particularly in the case of the RIP Act, civil rights organisations are extremely concerned that due care is taken look after the public interest:

> "We urge the government to withdraw the bill. Any subsequent legislation should, at the very least, provide stringent limitations and oversight to ensure that it does not violate the rights to liberty, fair trial, freedom of expression, freedom of association, and privacy."
>
> (*Daily Telegraph* 12 July 2000)

- Matters of security and trust, mentioned in connection with e-commerce, are as relevant in the "high street", although the traditional means of making personal judgements (in this context, assessing risk) are different on the Internet. Publicity regarding insecure credit card transactions, and other aspects of trust, have promoted encryption strategies, and "integrity" badges (e.g. TrustE).

These issues, it seems, are not new ethical issues, they are simply difficult to regulate in the medium of the Internet.

The final item on the list is email. This might fit into a "new issue" category, certainly it is a new way of communicating. However, the discussion in Chapter 5 on e-mail and the analogy with the traditional postal system, indicates a problem of security or privacy which are in part based on historic cultural expectations. In other words, "mail" is traditionally assumed to be private, unless received in a business environment (and even then can be marked private or confidential). It is also perceived as secure, and although it can easily be opened it is difficult to hide the fact that it has been tampered with - unlike email which can be read by others without the recipient knowing.

One issue not covered by recent legislation, but an issue which has raised an enormous amount of debate, is that of Intellectual Property. Software is the example most commonly given in the computer ethics field of the sort of new issues raised by computer technology. The argument put forward here is that this is not a new ethical issue. The following paragraph attempts to clarify some of the confusions in this debate.

The conceptual difficulty with software, as explained by James Moor (1985), is with fitting it into an existing intellectual property framework (he asks is it an algorithm or a process etc.). To add to the confusion there are a number of different perspectives to this issue. One is an attempt to find a moral justification to prevent software piracy (the copying of a software application wholesale, to be used or sold on to others), the second is the more complex issue of the source code, and whether (and how much) of that can be legally copied, or morally justified. In the first case, we are talking about the wholesale reproduction of something which would normally be bought from the

producer, in the second the decision is how much of that "thing" should be in the public domain. This latter argument falls within the patent argument, whether it is morally justifiable for the components of a valuable resource to be owned by one party, and if that is the case how much that restricts the pursuit of science by others.

The first interpretation does not made software a candidate for the "new issue" category, wholesale copying of software has striking similarities with other forms of copying (such as videos, and music), and, like video and music copying, a lot of people do it and are usually well aware of the moral implications. The second interpretation falls within the domain of science, and similar debates are familiar in the medical field and the pharmaceutical industry.

6.8 The impact of regulation on ethics

We have seen, in section 6, how attempts at Internet regulation have raised ethical concerns (exemplified by the RIP Act), and the practical difficulties of implementing any legislation on the Internet. Regulation also affects the ethical environment in other ways. The discussion in the previous paragraph concerning Intellectual Property and software has shown there are some difficult and ambiguous issues. This section emphasises the instrumental aspect of legislation, and its impact on ethical thinking and behaviour. The problem of copying software, and the activities of hacking are given as examples of ambiguous issues which have been accommodated into existing legislation.

Intellectual property is one of the main concerns of Internet ethics, and is already covered by legislation. The Internet does raise "difficult to manage" concerns regarding this issue. The notion of intellectual property has been with us for some time. The difficulty, as we have seen, has been in deciding what software is (an idea, a process, or an algorithm). The law has in fact decided that it should be counted as intellectual property (Johnson 1999: 4). Perhaps the most difficult problem is the potential scale of distribution which the Internet allows. One particular problem which is not covered by the law, identified by Sara Baase (1997), is the free distribution of software (via bulletin boards for example). In her example different legal routes were tried to get a conviction (for example, categorising this act as wire fraud) but were dismissed. In the following quotation (Baase 1997) illustrates the ethical force of legislation, at least to the extent of the legitimacy it gives itself as a moral imperative:

> "The judge's comments illustrate some of the problems of current software copyright law: "What the government is seeking to do *is to punish conduct that reasonable people might agree deserves the sanctions of the criminal law* ... It is not clear that

> making criminals of a large number of consumers of computer software is a result that even the software industry would consider desirable ....” (my italics)
>
> (Baase: 1997)

A similar strategy has been noted by Lessig regarding hacking:

> “As these cultures came into conflict, real-space law quickly took sides. Law worked ruthlessly to kill a certain kind of online community. The law made the hackers' behavior a “crime,” and the government took aggressive steps to combat it. A few prominent and well-publicized cases were used to redefine the hackers' “harmless behavior” into what the law would call “criminal.” The law thus erased any ambiguity about the “good” in hacking.”
>
> (Lessig 1999: 194)

6.9 Conclusions

This chapter has shown that not only is regulation a means of controlling behaviour, it is also a useful strategy for “aiding and abetting” ethics. In James Moor's terms (i.e. policy), regulation influences ethical behaviour by either restricting behaviour or promoting policies or guidelines.

The three aspects of regulation investigated here show an environment which is historically seen as unregulated, and which still has a strong lobby for minimal government intervention (as evidenced by the two debates reported here, and the EURIM recommendations). Where legislation has been introduced, the difficulties encountered can be useful in highlighting differences between off-line circumstances and the on-line environment. The findings of this section show that the Internet has a diverse user population, both in terms of age and culture, which provokes a number of problems regarding content management, and broad based international legislation. International trade (as in the case of personal data) particularly shows the difficulties of different national standards. In addition, the technical answer to security issues (encryption) turns out to be too secure as far as law enforcement agencies are concerned. The proposed regulatory means of assuring government interception has resulted in a radical change for citizens, putting the burden of proof on individuals rather than the police.

Using the formality of regulation as a strategy to analyse the issues, with a view to distinguishing new from old, reveals email as a possible candidate for the new issue category. However, observations from Chapter 5 on analogies suggest that after all the difficulties may be due to false expectations concerning privacy and security.

Although the Human Rights Act confirms the analogy with "mail" by ruling that email should be private (even in the workplace), monitoring of email by employers is condoned by the RIP Act, and the Electronic Communications Act. Therefore, employees are still in the position where they cannot be sure whether their email is private or not.

Finally, we have seen how regulation in itself can be used to shape, or define, what is legitimate social behaviour. The decision to make software intellectual property, and to criminalise hackers are examples of the power of regulation in influencing ethical viewpoints.

These three factors combine to provide an ethical context which at the current time is still in the developmental stage; (i) regulation is perceived as an intrusion on the Internet, (ii) there is a novelty about the issues which can be more appropriately ascribed to context rather than "new ethical issues", and (iii) where legislation has been attempted there are many confusions which need to be attended to.

The novelty of the Internet environment, and the complex issues surrounding regulation, have together inspired a great deal of debate, discussion and consultation. The Internet presents a novel environment, and the regulatory issues are complex. It is vital to have "meetings of minds", and open discussion, to bring different aspects to light. The IFIP SIG9.2.2 workshops, and the consultation processes of EURIM, were found to be valuable in this respect. In attempting to put in place an ethical infrastructure, and find an "Internet ethics", discussion underpins the "Process of Ethics" (Duquenoy and Whitehouse 2000):

> "The events reported in this paper describe the process of ethics, that is, of sharing thought and reformulating ideas. According to Jürgen Habermas (1983), discussion is at the heart of ethics, enabling learning and promoting understanding. In providing a forum for discussion SIG9.2.2 has endeavoured to activate and fuel the process of ethics."

Chapter 7

Problems and prospects with ethical theory

"When considering the ethical import of new policies in light of traditional ethical theories we frequently discover a strong rivalry between the leading contenders - consequentialist theories that emphasise the consequences of action and deontological theories that stress rights and duties. Especially where consequentialist theories and deontological theories offer hopelessly incompatible solutions, applied ethicists, searching for practical guidance, find themselves immersed in an ad hoc deliberation, scrounging for solutions from an inconsistent pile of principles."

(Editorial, *Ethics and Information Technology* 1:1, 1999)

"To be sure the Internet will present unique ethical challenges that could never have been envisioned by Kant or Mill ... "

(Spinello 2000)

7.1 Introduction

Throughout this thesis we have been talking about establishing an ethical context, through language, through concepts and through regulation (chapters 4, 5 and 6 respectively). Establishing an ethical context in these ways may well prove to be fruitless however, if the general environment of ethical theory is perceived to be one of muddle and confusion.

Chapter 2 revealed diverse opinions regarding the status of computer ethics, and the place of traditional ethical theories in the computer ethics context. The opening quotations, above, are indicative of the main two positions in the debate; the first summarises the difficulties of applying traditional ethical theory, and the second follows the uniqueness argument. The literature review showed that some authors advocate reconceptualising the issues so that they fit in with traditional ethical categories, whereas others believe a new ethics is needed. The divergent views give a confusing picture of the central source of difficulty, i.e. matching traditional ethical theory to the issues under discussion.

This confusion presents a serious problem, not only from the point of view of practising computer professionals seeking moral guidance in a new and confusing domain, but also for ethical theory. There is a serious danger that the credibility of ethics will be undermined - either because it is seen as unhelpful, or because it is viewed as a somewhat arbitrary device for justifying certain actions.

The overall aim of this chapter is firstly to show that in demoting the value of traditional ethical theories, i.e. saying that they do not work for computer ethics issues and a new theory is needed, there is a danger of "throwing out the baby with the bathwater", and secondly to show that in the global context of the Internet these theories play a valuable role in setting a foundation for a move towards a global ethic.

The structure of the chapter is as follows:

- Unpack and clarify the different claims from computer ethics regarding the "new issues, new ethics" controversy
- Outline the implications of these claims in relation
- Redeem the value of ethical theory as an aid to analysis and moral justification
- Summarise the particular difficulties of the Internet in this context
- Put forward a role for traditional ethical theory in a wider context of discussion.

7.2 Computer ethics and ethical theory

The rationale behind computer ethics is that computers raise special ethical issues which challenge traditional ethical notions and traditional ethical theory. The "traditional" ethical theories referred to, and which are commonly used within the computer ethics field (taken from a survey of the computer ethics textbooks, starting with Johnson 1985, to the most recent publication, Spinello 2000) are:

- Varieties of consequentialism (most commonly utilitarianism)
- Duty-based ethics (following Immanuel Kant)
- Social contract theory (following John Rawls)

The literature review brought to light diverse opinions - summarised by Deborah Johnson (1999) as follows:

> "The controversy has focused especially on whether the ethical issues surrounding computer technology are unique. Are the issues really different in the sense that they require development of a "new ethics"? Or are computer-ethical issues simply old ethical issues in a new guise?"

The implications of the above summary are:

(a) the issues are different (requiring a new ethics) or,
(b) the issues are old issues in a new guise (not requiring a new ethics)

The conclusion therefore is that *only if* the issues are different is a new ethics required. In other words, the difficulties experienced with applying traditional ethical theory are due to the novelty of the issues. The focus of the debate then, from Deborah Johnson's point of view, is on the issues.

Emphasis on the *novelty* of the issues, as expressed by the quotation of Deborah Johnson, masks the problems with ethical theory which are the focus of other authors. A shift of emphasis towards an inadequacy in ethical theory is taken by Luciano Floridi (1999: 37):

> "standard ethical theories cannot easily be adapted to deal with CE [Computer Ethics] problems, which appear to strain their conceptual resources."

Floridi's focus is more on the *adaptability of the theory*, rather than the newness, or otherwise, of the issues.

Moving right away from the novelty of the issues the quotation from the Editorial of *Ethics and Information Technology* which appears at the beginning of this chapter changes the focus completely to the *inadequacies* of traditional ethical theory, excluding any mention of novel issues. This part of the editorial is in fact summarising the view expressed by James Moor in that journal, but similar comments regarding "hopelessly incompatible solutions" and "inconsistent principles" have also been made by van den Hoven (2000) and Hamelink (2000).

Thus we can see a change of perspective from the *issues* which are the cause of the problem, to *traditional ethical theory* which either cannot cope with the novelty of the situation, or, even worse, simply adds to the difficulties by giving incompatible solutions and inconsistent principles.

Both of these perspectives, i.e. the issues and traditional ethical theory, are valid. However, concentrating solely on the issues (and whether they are new or not) does not address the wider concerns of applying traditional ethical theory. The issue of how useful these ethical theories are needs addressing, regardless of whether the computer ethics issues are found to be new, or not. There are, of course, practical concerns about how to arrive at ethical decisions, but there are also wider implications for what this author terms "the ethics project", i.e. the credibility of ethics. This is the subject of the following section.

7.3 The implications for ethics

The difficulties described above paint a bleak picture for ethics, and we should not be surprised if practitioners within the information technology profession are unconvinced of the value of ethical theory in addressing difficult ethical dilemmas. Even less will they themselves be encouraged to pick up the ethics "gauntlet" and get involved in the application of ethics to technological issues.

Part of the work of computer ethics, and Internet ethics, is to raise the awareness of computing professionals to the sorts of issues discussed in this thesis, and elsewhere (e.g. the media). The British Computer Society actively promotes attention to these matters in undergraduate computing science courses, and masters degrees are also being offered in this subject. However, an atmosphere of conflicting theories, and references to unique issues that challenge traditional theory, may simply result in despair, or worse, an abdication of any interest in the subject. There is also a strong concern that the application of moral theory is perceived as purely instrumental, and somewhat arbitrary. Steinke and Wong (1998) note:

> "... students and practitioners of computer ethics may be insidiously led to the rather dangerous conclusion that the only justification needed on ethical matters is personal opinion or preference. Furthermore, there is a real danger of "retrofitting" an ethical theory onto an already reached conclusion if theory does not play a significant role in justification".
>
> (Steinke and Wong 1998)

Whilst attempts to introduce moral theory to students of information technology is perhaps conceived as fundamental to any discussion on computer ethics, or Internet ethics, and the enterprise of raising such matters with computing professionals is laudable, a certain amount of credibility may be lost when the application of different theories to particular scenarios produces "hopelessly incompatible solutions". Hamelink (2000: 5) emphasises this point by citing Winkler and Coombs (1993: 3):

> "Concrete experiences in such fields as medical and business ethics have led 'to a serious if not widespread erosion of confidence in the power of normative theory to decisively guide the resolution of real practical problems'."

A view corroborated by James Moor (1999: 65):

> " .. the absence of resolution among the ethical theories leaves many with a somewhat jaundiced estimate of the value of ethical theory altogether. Applied ethicists, searching for practical guidance, find themselves immersed in ad hoc analyses of ethical problems

> and selecting solutions from an inconsistent pile of principles ... I believe that ethics needs more unifying theories that call upon the various strengths of the traditional approaches to ethics."

7.4 Putting things into perspective

Whilst not denying that the issues under discussion in the field of computer ethics, and Internet ethics, are proving extremely difficult to resolve, and that the comments concerning traditional ethical theory have foundation, this is not a problem that is specific to computer ethics.

Applying ethical theory to real world problems has always been a difficult task, especially when seeking consistent guidance in choices of actions. In posing the question "What *should* we do (given a certain set of circumstances)", there is very often no clear answer. As Hamelink (2000: 4) notes:

> "The application of classical moral theories of deontological or utilitarian signature provides little or no help in the resolution of concrete moral dilemmas in real-life situations"

Although the claim might be correct that "traditional ethical theory *is* challenged by computer technology", it could equally be the case that "traditional ethical theory is challenged by a variety of life events". That is, traditional ethical theory is *no more* challenged by computer ethics than it is challenged by other life events. Tom Sorell (2000), investigates similar claims made against traditional[10] ethical theory from other applied ethics sectors:

> "Cases where the mainstream theories supposedly fail to apply or apply awkwardly are reasonably well known. Ecology and gender are familiar areas of difficulty."
>
> (Sorell 2000: x)

Criticisms of ethical theory from these other sectors are strikingly similar to those expressed in the computer ethics literature:

> "Thus deep environmentalists complain that welfare in utilitarianism is only ever the welfare of the sentient, leaving much of the rest of nature with no moral claims on us. Radical feminists complain that apparently gender-neutral and ahistorical theories of justice are unable to recover the ways in which male oppression of women differs from other forms of oppression ... *meeting the challenges supposedly requires an overthrow*

10 Sorell uses the term "standard" instead of "traditional" to refer to virtue, utilitarian, Kantian and Rawlsian theories.

> *of at any rate utilitarianism and Kantianism and the development of some entirely new theory or theories.*" (my italics)
>
> (Ibid.)

Thus we can see that it is not only in the computer ethics field that there are difficulties with traditional ethical theories. Moreover, the earlier claim that traditional ethical theory gives conflicting outcomes should not be seen as a failure of the theories individually. Differing moral conclusions are not necessarily the root cause behind the difficulties of applying ethics to "real life examples". Admittedly there are problems of inconsistency in determining what the morally right action might be - standard theories are of course different from each other in that they promote different values and different positions. Whether you believe the consequences of an act take priority over the act itself, and act on that belief, will produce a different action. It is therefore not surprising that applying different theories to particular issues may produce conflicting outcomes.

The sheer range of theories posited, and the wealth of literature and debate they have generated within the field of moral philosophy, shows the complexity of the problem. Janna Thompson (1998), in a discussion on ethical disagreement, quotes Pollock (1985: 522) who takes the view that disagreement does not necessarily render ethics unviable - some situations are just simply difficult:

> "It could well be the case that people differ in their moral judgments just because moral judgments are hard to make. They might have the rational equipment needed to resolve most moral disagreements but fail to do so because such resolution is difficult."

J. L. Mackie (1977: 130-2) adopts a similarly common-sense attitude. He suggests that amongst the many difficulties encountered with applying ethical theory, is the fact that they ask too much of human beings. Although aspiring to the best motives and intentions, humankind has its frailties. Taking as an example the biblical commandment "Thou shalt love thy neighbour as thyself" as "often taken as prescribing a universal and equal concern for all men" and interpreted by Mill as "effectively equivalent to the utilitarian principle", Mackie declares:

> "it is similarly impracticable. People simply are not going to put the interests of all their 'neighbours' on an equal footing with their own interests and specific purposes and with the interests of those who are literally near to them. Such universal concern will not be the actual motive of their choices, nor will they act as if it were."

Moreover, such idealism is likely to do more harm than good, and

> "encourages the treatment of moral principles not as guides to action but as a fantasy which accompanies actions with which it is quite incompatible. ... To identify morality with something that certainly will not be followed is a sure way of bringing it into contempt".

Mackie expresses an important point which relates to perspective, and which is at the hub of this discussion. In the passages quoted he advises that setting unrealistic goals negates any practical value of moral theory, and puts its principles in the class of "fantasy". The consequences, he warns us, are to bring morality into "contempt". The problem he raises is one of the problems, this writer suggests, of the computer ethics debate. The criticisms of ethical theory regarding its application to computer-related issues, leads to the belief that under other circumstances (i.e. non-computer situations) ethical theory can provide good answers. This is simply not the case.

The aim of this section has been to show that the expectations regarding ethical theory and its application to the very difficult problems arising from computer technology are unrealistically high, and therefore the consequences are bound to be disappointing. By showing that ethical theory is equally challenged in other domains, this author has tried to put the difficulties into perspective. Put another way, it is not necessarily that ethical theory is failing, it is that our expectations of what ethical theory can give us are unrealistically high. Pointing to the inadequacies of traditional ethical theory carries the danger of "bringing it into contempt" - to use Mackie's words. Moral issues are difficult - attested to by the wealth of literature on both moral theory and applied ethics.

If it is the case that the traditional ethical theories have been put on a pedestal, and that we expect too much of them in the applied sense, we need to ask the question "how useful is it to apply these theories, and what can we more realistically expect?"

7.5 Why use ethical theory?

In view of the above difficulties, and the apparent inadequacy of ethical theory, one might ask what can be practically gained from applying it to difficult issues. Sorell (2000) puts forward two roles of moral theory, one is in grounding "the various precepts and prohibitions that most of us internalise through upbringing as some sort of unity " (Ibid.: 5). This role is important even in the event of transferring to a new ethics. The other is to aid conscientious reflection. For example, in public policy decisions:

> "For everything relevant to be given weight, and for relative weights of goods to be reflected in reasoning, principles need to be devised that take one far from unreflective, everyday morality."
>
> (Ibid.: 4)

And for individual actions:

> "Theory can also be required where the decisions before the agent are small-scale, for example, where there is a conflict among the demands of personal morality, or a conflict between personal morality and the demands of some more public role the agent occupies ..."
>
> (Ibid.: 5)

In other words, we could say that the principles of a theory provide a yardstick against which we can objectively measure our personal actions or intuitions. It is in this context that ethical theory can be useful.

Whilst it must be admitted that ethical theory does not generally give hard and fast, or easy, answers to the problems we are trying to solve, the criticisms regarding its deficiencies ignore an important aspect: that is, its utility as an aid to rigorous thinking. In offering a framework for analysis the application of ethical theory can be helpful by (i) drawing out hidden dimensions of a problem, and (ii) providing a rational justification for the decision ultimately reached. These two aspects are illustrated by the following examples. The first shows how applying the two traditional theoretical approaches can draw out arguments and reveal insights in one of today's most complex issues - intellectual property. The second example is aimed at the practising professional, and shows how a rational approach can be helpful when faced with difficult practical issues such as prioritising values and assessing conflicting outcomes.

Helen Nissenbaum's (1995) essay "Should I copy my neighbor's software" investigates the various arguments offered in support of intellectual property, and in particular scrutinises the moral justification for, in her words, a "strong no-copy view". Copying software is generally thought of as being morally and legally unjustifiable. However, Nissenbaum challenges the arguments commonly offered to support this view, finds they are based on unsupported premises, and concludes that a "strong no-copy view" cannot be universally applied across all cases. She presents her case as follows.

Taking a consequentialist perspective, and pursuing a claim that software copying discourages creation and causes artificially high prices, Nissenbaum first of all comments that there is no demonstrable link between copying and reduced income to the developers. She says:

> "If copying hurts the software industry but has no effect on general welfare a prohibition is not morally justifiable on consequentialist grounds. If copying is not directly related to income, nor income to a decline in the industry, then too, the argument breaks down. On close scrutiny these links don't stick."
>
> (Ibid.: 203)

Nissenbaum counters the reduced income arguments with the proposal that copying can lead to increased spending, by giving timid users the chance to try before they buy, which may lead to greater interest and increased spending. Against the argument that copying inhibits creativity (by compromising the reward to programmer), she refers us to the position held by Richard Stallman who "ably makes the point that directly tying software production to monetary reward paints an overly simplistic picture of the rewards that motivate programmers". Stallman believes that "prohibitions on copying, and other restrictions on the free distribution of computer code, has the opposite effect on computer technology ... slowing progress rather than encouraging it".

A further comment made by Nissenbaum, one which is not commonly noted, is that the "no-copy position unreasonably focuses on private end-users, placing on their shoulders the onus of maintaining the health of the software industry" (ibid: 205). She observes that government, hardware producers as well as software companies "all have the power to significantly affect the software industry", and "it is wrong for the private consumer to be unfairly burdened with responsibility."

From the rights-based position, Nissenbaum refers to arguments which are founded on the "rights of programmers" and "respect for their labour". To substantiate this position, Nissenbaum observes that proponents need to "identify the rights of programmers" in this context, and further demonstrate that "copying always violates these rights". Even if we can conclude that programmers do own the programmes they write, "it is not obvious that property rights over programs include the right to restrict copying to the extent desired." One argument used in support of intellectual property, following John Locke (1632-1704), is that people are entitled to the "fruits of their labour". However, Locke does add the proviso that the acquisition of property is only morally justifiable "where there is enough, and as good, left in

common for others". In other words, Nissenbaum points out that "property rights are subject to the limitations of countervailing claims of others".

Pre-empting the criticism that copying software is immoral because it amounts to stealing, Nissenbaum holds that the assumption "copying is stealing" begs the question. Until it can be determined that copying always violates property rights (which the discussion above queries), it cannot be assumed that copying is stealing.

Whilst in no way endorsing the copying of software, Nissenbaum concludes (1995: 211):

> "Finding that there are insufficiently strong moral grounds for universally prohibiting copying, I conclude not that all unauthorized copying is morally acceptable, but that that (sic) some copying is acceptable. There is sufficient variability in the types of situations in which software users copy to suggest that we ought to evaluate them case-by-case"

The discussion above shows that ethical theory can be useful in the analysis of issues, but that such theories do not provide hard and fast answers to some of the dilemmas we encounter in practice.

The following example also uses ethical theory as a methodology for analysing a particular case, and illustrates that the problem of conflicting outcomes does not necessarily negate the usefulness of the applied approach.

This particular example, used by Mason, Mason and Culnan (1995) investigates the issue of personal data. Their hypothetical situation is based on the "loyalty card" idea offered by some supermarkets; in this particular case the promotion is called "the Promise Club". The ethical issue introduced is one of the supermarket passing on customer details to another agency. Analysing the issue from the perspectives of "traditional ethical theory" Mason, Mason and Culnan (Ibid.) advise us that two morally different conclusions may be reached. However, that is not the main point of this example. The purpose of this example is to illustrate two dilemmas: (i) conflicting principles within a theory, and (ii) conflicting outcomes of the two (deontological and teleological) principle theories used in applied ethics. To overcome the first problem a strategy of "supersession", i.e. prioritising rights or duties, is used to mitigate the inflexibility of deontological reasoning. In the second, perhaps more problematic case (as far as ethical theory is concerned), the authors observe that in the final analysis the decision which outcome is best depends on the moral values held by the decision-maker:

> "These conflicting rule-based and utilitarian conclusions must now be resolved. A person who believed that any harm to customers was intolerable would judge the program to be unethical, whereas one who weighed all of the consequences may conclude that the program was ethically defensible."
>
> (Mason, Mason and Culnan 1995: 134-5)

In justification of using these theories for purposes of moral guidance, Mason *et al*, argue that whichever position was finally adopted, the outcome could be rationally justified.

> "In either case, the final judgement would be based on articulable reasons derived from ethical theories and principles."
>
> (Ibid.: 134-5)

Although in one sense the decision appears to be arbitrary, and contingent on the moral values of the individual, Mason *et al.* stress that the outcome has some moral foundation, and has been thought through. It seems then, that the justification behind moral theory, in the applied sense, is not solely one of giving moral direction. The benefits of such an approach are that some sort of mental investigation is required, and the resulting decision has some rational basis. This approach is considered to be better than acting either "thoughtlessly" or on a "hunch".

The foregoing examples demonstrate that there is a useful place for ethical theory in practice. Where there are complex ideas, or in cases where it is not obvious what one should do, the traditional ethical theories can help to provide illumination, and allow individuals to rationally articulate reasons for a moral choice.

7.6 Broadening the ethical perspective: the Internet

The problems encountered in the computer ethics field regarding applied ethics gain an added dimension with the arrival of the Internet, in the sense that the Internet brings with it issues of a global nature. Chapter 4 identified a number of features of the Internet which contribute to the ethical problems:

- a lack of understanding
- architecture
- scope, anonymity, reproducibility
- "easiness"

Chapter 6, discussing regulation, identified further difficulties:

- a diverse age range
- a diverse cultural mix
- differing national standards
- the magnification of tensions between the rights of the individual versus the national interest

Although the above are problems to do with regulation, they also carry ethical implications. At the root of the first three is a question of defining standards. Not only is there a concern that children may be exposed to harmful material, but whose standards (of what is considered harmful) should apply? There is also a reasonable argument that the Internet is not solely for the use of children, and adult material should be available for those adults who want it. A similar argument applies to the diverse cultural mix - who, if anyone, should determine standards, or should standards be left open? The debate concerning data protection between Europe and the United States has explicitly shown how different communities have different standards, and different approaches to solving problems. Other tensions, between individual rights to privacy and the rights of the state to do what it can to protect citizens, and the state, from criminal activity, are made apparent in the encryption debate.

Given the tensions described above, offering opportunities for discussion is an important part of the process, and recognised as such by the UK government. However, the discussions concerning regulation (and self regulation in particular) highlight the practical difficulties of implementing legislation in a timely fashion. The Internet is still an immature technology, therefore the object of discussion is not static and fixed, but temporally dynamic and essentially unpredictable. In addition to the foregoing difficulties (setting standards etc.), we also have a situation wherein the Internet is characteristically dynamic, and changing. The Internet also offers a specifically two way interaction (in the sense that consumers can also be broadcasters and publishers) which is a different model to the original "computer plus user" model.

The problems of Internet ethics are subtly different to those of computer ethics, in so far that the Internet raises problems of scale, social exchange, sharing and boundaries. These problems are compounded by technological constraints - in Lessig's terms "regulability".

7.7 A different strategy

In elaborating the perceived difficulties with ethical theory put forward by computer ethicists, this chapter has highlighted problems concerning incompatibilities between the most favoured ethical theories. In response to this problem James Moor calls for "more unifying theories" (1999: 65), and Jeroen Van den Hoven (2000: 135) recommends these "overly simplistic accounts ... need to be supplemented or enriched to be adequate as an ethical framework".

The previous section noted the added difficulties presented by the Internet, such as its global reach (scale), social exchange, problems of sharing and boundaries, and changing technology.

Given the difficulties with traditional ethical theory discussed previously, it is perhaps tempting to opt for a new theory (as suggested by Floridi 2000). Are we asking too much, as Mackie (1997) might suggest, in attempting to resolve what might be termed local issues (that is, specific issues) and global issues with one theory?

7.7.1 A local perspective

At the local level, we could extend the range of theories on which we draw. Already discussions on intellectual property often refer to John Locke. However, barely any mention is made to John Stuart Mill's essay "On Liberty" (published in 1859), which has a direct bearing on the sorts of issues being discussed in connection with the Internet.

For example, in the opening paragraph of his essay Mill talks about the "vital question of the future" (in Cahn 1977: 1105). The "vital question" which his essay addresses is "the nature and limits of the power which can be legitimately exercised by society over the individual", either via government or social pressure. He argues that such pressure is only legitimate in preventing harm to others. This essay refers to values at the heart of the Internet debate. On the subject of self-government he has this to say:

> "such phrases as "self-government," and "the power of the people over themselves," do not express the true state of the case. The "people" who exercise the power are not always the same people with those over whom it is exercised; and the "self government" spoken of is not the government of each by himself, but of each by all the rest."
>
> (in Cahn 1977: 1107)

In promoting the "liberty of thought and discussion", which according to Mill is the route to discovering truth, he makes a distinction between free thought and free action, recognising the potential harm to others caused by "a positive instigation to some mischievous act" (this could be translated into contemporary language as incitement).

He even has something relevant to say on one of the hottest debates currently running - that of encryption. He refers to the implications of government interference in the name of crime prevention, and expresses similar concerns to those discussed in Chapter 6:

> "... how far liberty may legitimately be invaded for the prevention of crime, or of accident ... The preventive function of government, however, is far more liable to be abused, to the prejudice of liberty, than the punitory function ..."
>
> (in Cahn 1977: 1165)

This is just one example of many possibly useful theories. Whilst these works can provide a foundation, and a different perspective, the application of existing work is not the only available strategy. According to Deborah Johnson (1994: 118), "The human approach includes better legislation, changing informal social attitudes and conventions ...". A similar, more social approach, is advocated by Hamelink (2000: 4), following criticisms regarding the "erosion of confidence" experienced in other fields of applied ethics:

> "In the quest for a more adequate approach it has been proposed to conceive of morality as 'an evolving social instrument' that is part of a specific cultural context (Winkler and Coombs, 1993: 3)."

7.7.2 A global perspective

Taking the global perspective, any new approach should take heed of the particular features of the Internet described above (diverse cultures, social exchange, etc.). What we seem to be looking at, in other words, is some type of global ethic, which will be supremely challenging - but not necessarily impossible (Dower, 1998, offers a persuasive argument for attempting such a project). Such an outcome will be the result of a lengthy process, which in a small way has already begun.

The previous chapter noted the importance of discussion in the "process of ethics", and this research generally has promoted the notion of discussion throughout (combined with the dissemination of the results of discussions to a wider public). An investigation into other ethical approaches during the course of this research

identified the theory of Discourse Ethics, put forward by Jürgen Habermas (see Duquenoy, Torrance and Thimbleby 1999: Appendix B:3). This theory offers a procedural approach to ethics, which is applicable to a changing social environment. Given the complexities of Internet ethics, there are advantages to the role of discussion as a route to reaching understanding.

Hamelink (2000: 5) endorses a discursive approach:

> "In the dialogue it is explored upon which 'minima moralia' societies can find basic and common agreement. Since there are never ideal solutions for moral choices and since any moral choice is essentially contestable, the ethical dialogue does not automatically lead to the only acceptable moral choice, but renders moral choices communicative acts that are transparent for all those affect by them. The proposal for an ethical dialogue assumes there are always various plausible solutions to moral choice-situations. Therefore, ethical reflection should not focus on identifying the single correct solution, but should rather concentrate on the due process of the moral argumentation."

In taking account of the "pluralist and multicultural" social context he notes:

> "Moral standards cannot any longer be authoritatively imposed upon all the members of such societies. Under these conditions ethics can evolve in a legitimate fashion only through the dialogue among all those concerned."
>
> (Hamelink 2000: 5)

7.8 Discourse as an aid to understanding

We are thus left with the question of how best to proceed. It has been apparent to the researcher throughout the research period that discussion between experts has played a key role. In all of the working parties attended the outcomes of the discussions, as well as resulting in a publication which has been disseminated to a wider audience, have clarified issues and expanded the debate, thus increasing understanding and raising awareness. The purpose and existence of these documents by themselves are an acknowledgement of the very difficult issues and complex nature of the area under discussion. Authors within the field (Winograd 1995, Maner 1998) have emphasised the importance of this type of discourse:

> "I use the word "discourse" here instead of "thinking" to emphasize the social construction that is at the heart of decision-making even when a person does not directly enter into conversations with others. In a real, if extended sense, I am in discourse not only with the people I speak with but with those who have written the things that have influenced me, and those I have talked with, and in turn those in the future who will be influenced by what I say and write."
>
> (Winograd 1995: 37)

In a similar vein, Walter Maner has produced an on-line interactive computer ethics explorer (ICEE) founded on the idea of "moral reference communities". His first design assumption is:

> "**Assumption 1** : because moral growth necessarily has a social dimension, it is constructive to explore ethical issues in real-time, with other thoughtful persons.
>
> Although productive ethical reflections may sometimes be conducted in solitary, ethical engagement is necessary to validate, refine and mature these reflections. This is true not only in the sociological sense that norms are created "in community," but also in the philosophical sense that enlightenment is created in dialogue. The otherwise sterile elements of ethical codes may suddenly become infused with life when there is sufficient ethical engagement among a diverse group of inquiring persons."
>
> (Maner 1998: 463)

Discussion and creating "spaces for discussion" is the remit of the IFIP Special Interest Group 9.2.2 (Framework on Ethics). The opening sentence in their major work on codes of conduct (Berleur and Brunnstein 1996: 3) declares:

> "Creating 'spaces for discussion' on ethical issues in computing appears as one of the main tasks of an international association like IFIP."

In the final remarks of the same publication, Jacques Berleur (1996: 246) recommends a participatory approach (following the trend in participatory design) in the context of setting codes of conduct, and offers Jürgen Habermas' Discourse Ethics as a possible model. In particular:

> "These ideas of 'ethics of discussion' or 'public spaces' are interesting and important for our purpose … by giving to the categorical imperative an appropriate realization … At the same time, they allow us to include the participation of many and to give its real place to codes of ethics/conduct ...."
>
> (Berleur 1996: 247)

7.9 Discourse Ethics in the context of the Internet[11]

Discourse Ethics concerns the validation of norms by rational consensus. The Internet is in an evolutionary stage, and it is likely that norms will be developed. This is exactly the use for "practical discourse" that Habermas has in mind:

> "Practical discourse is not a procedure for generating justified norms but a procedure for testing the validity of norms that are being proposed and hypothetically considered for adoption."
> (1990: 103).

Frances Grodzinsky (1999) believes the model of discourse ethics "might be promising" for the future ethical development of the Internet because of the necessarily open attitude to other ways of thinking it entails. However, she has reservations in that whilst discourse ethics offers procedure it does not articulate particular values, and she is concerned that the potential anonymous status of participants could jeopardise any serious commitment on their part.

Answering the criticism that discourse ethics does not advocate specific values it could be argued that, given the global context of the Internet environment, a more open approach outweighs the disadvantages of rigidly adhering to what might be seen as western values. This is not to suggest that values should be abandoned - a suggestion which is at least as unrealistic as "loving thy neighbour as thyself". There is nothing to say that all western values are in opposition to values held in other parts of the world, and it could be that in offering a discursive approach there is a greater likelihood of reaching some agreement than by attempting to impose one particular view over another. Objections have been made in respect of the dominant western view and western values currently being promoted on the Internet (in an idealistic sense, and in the sense of western values designed-in to applications and interfaces). It might also be argued that a western, value-laden, moral theory is not appropriate to the Internet context. Admittedly, the democratic flavour of Discourse Ethics reflects a western perspective. The advantage of a democractic approach however, is that it is a concept already familiar to a great many users, certainly to any users who would be in a position to determine values, and who would be free to enter into discussion.

The rapid development of global communication calls for a dynamic approach which this theory can meet. Janna Thompson (1998: 38-39) refers to the theory as "diachronic" and notes "background assumptions, theories and moral principles are

[11] The ideas presented in this section formed part of an earlier piece of work "The Internet and Discourse Ethics", Hypertexto, First Edition, March 2000. Reproduced in Appendix C, and available on line at: http://www.hypertexto.com

revised and changed in response to criticisms, changes in sensibility and new ideas. It emphasises ethical change and the evolutionary development of ethical understanding". The procedure of discourse is appropriate to this context, given the current trend for "user autonomy", and the caution exhibited by governments in a regulatory capacity.

Within a broader vision, the users of the Internet can bring a richness and diversity to our individual ethical perspectives. This input, together with the reflective process required in the rationalisation of our own moral beliefs (argued for in Section 7.5), not only extends our understanding, but also allows a critical assessment of why we hold the views we do, and makes room for a change in views. Even without a consensus being reached the process of discourse should lead to enlightenment, mutual understanding, and perhaps some agreement on common core ethical principles (as experienced by this author, Section 7.8). By providing the means the Internet offers an unprecedented opportunity to clarify and identify universal moralities.

> "[T]he revision of the values used to interpret needs and wants cannot be a matter for individuals to handle monologically."
>
> (Habermas 1990: 68)

Frances Grodzinsky (1999), referring to the strong communitarian ethos that governed the Internet in its earlier days, asks "is our vision of an ethical global on-line society a realistic one?" She sees a direct conflict between the earlier ethos which promotes a "common good" and the contemporary view of western society which espouses an "individualism is which the person is autonomous and exists prior to the society". She notes that the Internet has become "a pluralistic society comprised of different groups and different cultures often with conflicting values." As well as all of this, she draws our attention to another tension between regulation (by law) and those who try to preserve the values (unregulated) that have existed previously. Grodzinsky asks: is it possible to establish a metaethic that will protect its development as a global community?

> "Those who are seriously involved in conceptualizing policy for this global space should make ethical and social issues a primary concern. To this end, they might have to integrate models that work in a open pluralistic society with those that have a strong moral component."
>
> (Grodzinsky 1999)

My own response to Grodzinsky's argument of individualism is to refer to Charles Taylor (1991), who makes a strong case for the position that even an individualistic morality has common core values which can be articulated in a wider world.

7.10 Conclusions

The aim of this chapter has been to clarify some confusions concerning traditional ethical theory. This author has shown that although there are difficulties applying traditional ethical theory to the ethical issues raised by information technologies, this does not necessarily imply uniqueness as far as these issues are concerned. Applying ethics is a difficult task, and the use of these "traditional" theories in other fields - such as business, politics, feminist and environmental - (Sorell 2000) has proved similarly challenging. Ethics is a notoriously challenging subject:

> "From the dawn of philosophy, the question concerning the summum bonum, or, what is the same thing, concerning the foundation of morality, has been accounted the main problem in speculative thought ... And after more than two thousand years the same discussions continue ... and neither thinkers nor mankind at large seem nearer to being unanimous on the subject ..."
>
> John Stuart Mill (1806-1873)

Whilst this puts the difficulties of computer ethics into perspective, there is a separate problem to address, that is, the potential loss of faith in the use of ethical theory from a practical point of view. The argument put forward in this chapter is that the traditional ethical theories are still worthwhile in that they provide a valuable tool for rigorous thinking, and still capture long held values (for example, certain acts or outcomes are better or worse than others). Furthermore, in expecting incontrovertible guidance we are asking more of these theories than can be reasonably expected.

It has been suggested here that the range of theoretical work should be extended, and rather than hoping to find all the answers in either deontological or teleological approaches, new perspectives may be found for specific issues in more individual contributions, for example Mill's (1859) essay "On Liberty".

As far as the Internet is concerned, taking into account the particular difficulties of diversity, the answer is by no means easy. Internet ethics could be viewed as an unchartered "ethical" sea, and for the time being, and in such a situation it may be more appropriate to concentrate on the process of ethics, that is, how we move towards a solution. This chapter has suggested that one useful way forward is to adopt a more dynamic and flexible approach to the issues of Internet ethics - discussion and dialogue - following the theory of Discourse Ethics.

It is not suggested that Discourse Ethics will provide all the answers, a process which relies on communication in a multi-lingual environment sets particular challenges. However, it does aim to promote and extend understanding, which as an ideal may be classed as an ethical principle in its own right.

This is an inspiring prospect, but what of the practicalities? According to Habermas (1990) the pre-conditions for this type of discourse are that all participants should be willing to engage (which implicitly requires an open mind), competent (have the ability to be rational), and be free from coercion. Internet users can, potentially, meet all those requirements. There are however, strong reservations, such as the issue of free expression (unacceptable in some nations), and language competence (a global exchange necessitates translation). Achieving understanding through dialogue can be demanding in one's own language, and is certainly likely to be a challenge via a translation process. The reservations expressed by Grodzinsky (1999) concern the enormous number of legitimate participants and stakeholders on-line. Reservations apart, it may still be worth the attempt (a position supported by Nigel Dower (1998), arguing for "cosmopolitan ethics").

This thesis has been concerned with the ethical problems of the Internet, but the very basis of the challenges the Internet has raised (global exchange) offers the *opportunity* of global consensus (as an ideal). The Internet can facilitate the process of ethics in the following ways:

- by offering a platform, or "space for discussion" which is free and uncoerced
- by actively encouraging the exchange of views in a co-operative and open environment
- by giving opportunities for such discussion (including translation)
- more specifically, via discussion groups, web pages (linked to discussion groups, information, and suggested reading)
- by offering a focus for discussion (perhaps taking the two different viewpoints outlined above: that is, (i) what moral norms might be appropriate within the Internet society? (ii) identify areas of agreement, i.e. common norms and values)

and finally, by advocating and promoting policies which facilitate the furtherance of these ends.

Chapter 8

Conclusions and further work

8.1 Summary

The aim of this research has been to clarify the domain of Internet ethics, with the objective of providing a clear foundation for further work. This is a new area of research incorporating diverse issues, with no clear frameworks for action or research paradigms. The methodological approach chosen has been to distinguish four separate areas for investigation. The decision to select these particular areas was guided by the topic itself (the technology of the Internet) and problems from the computer ethics field (conceptual muddles and policy vacuums, and difficulties with applying traditional ethical theory).

Investigation within these four areas has revealed some interesting influences upon ethical thinking and ethical "contexts". The following four sections (8.1.1 to 8.1.4) summarise the themes and conclusions of the four different perspectives taken in Chapters 4 to 7.

8.1.1 The technological perspective

Chapter 4 began by illustrating how technical terminology can factor out ethical thinking by giving a purely technological context which ignores the human element. Whilst technical descriptions may be entirely appropriate in some circumstances, it is important to be aware that such descriptions can undermine an appreciation of the ethical implications of technology. The view that technology is ethically neutral and is no more than a tool has important repercussions regarding the responsibilities of the computing professional within an ethical society. Taking such a view allows an abdication of ethical responsibility.

The chapter then gave examples of technological developments put forward as an answer to some of the ethical difficulties (e.g. filtering inappropriate content, and privacy initiatives), and noted that these solutions themselves raise other ethical questions. To a certain extent this demonstrates the instrumental aspect of technology, i.e. that technology is a tool which people will use in different ways (beneficial or otherwise), but it also shows that constraints can be designed into computer technology. The cases of PICS and PGP show a conscious and specific ethical purpose to their creation. If a conscious attempt to build beneficial ethical tools is possible (as it has been shown to be), then it is also possible to build the opposite. Ethical values *are* incorporated into computing technology either

consciously or unconsciously, and constraints *are* put on the user regarding their choices of action. Developers of this technology often deny the place of ethics in their work, and although some headway is being made to raise awareness of computing professionals to ethical issues and the responsibility that incurs, there is certainly no room for complacency. The paper "Justice and Design" (Duquenoy and Thimbleby 1999, see Appendix B:2) introduces the idea of specifically incorporating the ethical notion of justice into design practice to encourage better design. It is hoped the paper, which illustrates links between John Rawls classic Theory of Justice and existing HCI design principles, will show that moving towards ethical design does not necessarily involve a new design paradigm.

8.1.2 Setting the context with metaphors and analogies

Those working with Internet technology have a technical understanding of the Internet which gives a technical viewpoint. The focus of Chapter 5 was on the users, and potential users, who do not have technical expertise and instead rely on metaphors and analogies to contextualise the Internet environment. Whereas the technical viewpoint appears to exclude ethical connotations, the metaphors and analogies used to explain the Internet may distort ethical expectations and behaviour. References to "Cyberspace" carry with them expectations of some new frontier land, which is unregulated and unregulatable, that is, where "anything goes" - a view confirmed by media reports of pornography, viruses, hackers etc. Other descriptions relating to applications, such as email, can be misleading as far as ethical practices are concerned (for example, non-confidentiality).

We thus have at least two influences on ethical thinking and ethical behaviour as far as the Internet is concerned. Both refer in some way to terminology, the first viewpoint (technical) which excludes an ethical relationship, and the second which attempts to give context but which may leave the user confused in two ways: what ethical behaviour to expect, and what ethical behaviour is to be expected.

Metaphors and analogies are tremendously influential in setting a context, and if we want to promote an ethical environment care should be taken in choosing appropriate analogies and metaphors, which incorporate an ethical frame of reference.

8.1.3 Problem solving with regulation

A more explicit method of influencing ethical thought and behaviour is that of regulation, either by law or self regulation (or, to use a more contemporary term - co-regulation). Chapter 6 presented the case that the Internet is generally viewed as unregulated, and has inherited a tradition of non-regulation, which together influence the regulatory scene. Finding a balance between maintaining the somewhat

entrepreneurial nature of the Internet and providing a foundation for trust, essential for the development of e-commerce, is proving a tremendous challenge.

However, the legislation which has been introduced over the last few years is useful from the point of view of this research as an aid to clarifying the "new issue, old issue" debate. The formal nature of regulation is useful to understanding issues because of the precision and rigorous thinking it requires. Looking at the issues from a regulatory perspective shows the role of regulation in providing an ethical infrastructure. This chapter gave examples of the legislative attempts to re-instate a type of ethical infrastructure in the on-line environment.

The difficulties experienced with *agreeing* regulatory measures (apart from the difficulties of applying and enforcing them) in an international context are not easily resolved. Discussion plays a vital role in these negotiations, not only by the exchange of ideas and creating understanding, but also in itself as a moral ideal. The series of workshops held by IFIP SIG9.2.2, an experiment in providing "spaces for discussion", raised the profile of ethics throughout the HCC5 Geneva conference, and valuable insights were gained (Berleur, Duquenoy and Whitehouse 1999, see Appendix A:1).

8.1.4 Applying ethics

Attempts to resolve the ethical problems by applying traditional ethical theories have proved difficult, and claims that the issues in this field are unique, have prompted some authors to claim a new ethics is needed. The argument given in Chapter 7 was that the difficulties experienced in applying traditional ethical theory does not necessarily imply that the issues of computer ethics are unique - applying ethical theory to non-computer issues can also give problems and contradictions between theories. In other words, applying ethics is a difficult business. It was also argued that focussing on the weaknesses of traditional ethical theory jeopardises the status of ethical theory, and ignores its role in offering principles and its importance as an analytic aid to moral thinking. By putting the difficulties of applying ethical theory in a wider context (i.e. other fields of applied ethics), this author has tried to regain a sense of perspective and give a more realistic picture of the role of ethical theory in this context.

However, in view of the difficulties experienced with the theories mentioned, this chapter proposed alternative approaches, (i) to extend the range of ethical theory used, in a more subject specific way, and (ii) a discursive approach to address the added complexity of an ethics for the Internet.

8.2 Constraints and limitations of the research

8.2.1 Scope of the research

At the beginning of the research period the subject of Internet ethics was very much in its infancy. This situation provided tremendous scope for research, but also presented problems in the lack of a concrete base from which to start (a problem which this research has sought to address). The potential scope of research has also had its disadvantages in that it has at times proved difficult not to get sidetracked from the original aims of the work by the many interesting issues and exciting developments within the area.

It has been apparent throughout the period of research that the work covered in each area is merely touching the tip of the iceberg, and one of the greatest problems during this research has been to maintain the research focus. Each area of investigation sparked ideas which could have led in many different directions - choosing which path to follow has at times been extremely difficult. The choices made were determined by the main aim of the research (i.e. to unwrap the complexity of Internet ethics), rather than getting immersed in specific issues, such as Intellectual Property. That being said, whilst the scope of the research naturally has boundaries, it is hoped that the ideas presented in the thesis, and the approach adopted (i.e. offering different perspectives) stimulates further ideas and alternative approaches in others - which in turn further the understanding of the topic.

8.2.2 Time

The time constraint does not only apply in respect of "man-hours", there is also the changing context of the area studied to be taken into account. The Internet environment has changed dramatically from its inception to the present day, and is still changing. New technologies are continually being developed and introduced, and the assimilation of the Internet into everyday life has vastly increased. In these circumstances producing relevant research has a very real time constraint - this is especially so in the field of computing science. This thesis has therefore endeavoured to provide a broader, high-level, picture which emphasises the interrelationships of people, ethics and technology; that is, an abstract principle which remains relevant and maintains its value over time. Even so, the writer has been acutely aware of the changing face of some of the areas. For instance, the example of the email analogy given in Chapter 5 may not seem so relevant at this time as it was at the beginning of the research period! New users today may be aware of the non-private nature of email (particularly in the office environment), that is, the conceptual ground may have already been broken. However, the principles which that chapter puts forward remain the same: that analogies and other similar descriptive devices contribute to

providing a certain concept, and by their very nature analogies carry forward some properties and ignore others - therefore if we wish to maintain an ethical perspective we need to choose analogies which include ethically relevant properties.

8.2.3 Cross-disciplinary research

The complexity of the Internet ethics situation, incorporating as it does at least three complex components in their own right: technology, people and ethical values; covers a range of disciplines, most obviously, computer science, the social sciences, and philosophy. Having said that, it is Internet technology which is the foundation of the problem area, and it is therefore appropriate that this research has been conducted from within a computing science department, and is directed primarily at the IT community. One of the aims of this work has been to emphasise the tight relationship between technology and ethics, and by doing this to raise the awareness of IT professionals to the sorts of ethical issues which can arise. Conducting the research from a computer science department has, this author believes, facilitated the communication of these ideas, not only because of access to departmental seminars and computer-related conferences (such as Interact, Ethicomp and IFIP-HCC5), but also through a culturally familiar – in the sense of disciplinary cultures - writing style (in contrast to, for example, a very different style and terminology employed by philosophy and the social sciences).

The four perspectives used in this research fall within the disciplines of: computer science, cognitive science, psychology, law, and moral philosophy. Such a disciplinary cross-section places severe constraints on the depth to which each area can be studied within the timescale of a Ph.D. Indeed, each of the four areas selected for this investigation could in themselves provide a base for separate research (Ph.D. or otherwise). However, the aim of this research was to (i) clarify a very muddled area, and (ii) provide a foundation for further work. One way of seeking clarity within complexity is to distinguish separate dimensions from which to look at the problem, which is what this research has done. There have been losses in taking this approach, in terms of covering the vast amount of work available in other disciplines (for example, the range of literature on metaphors in the field of cognitive science). That said, individual research on each of the four perspectives would not give the combined picture that is at the heart of this thesis. The recognition of the impact of each of these perspectives on the ethical environment, or ethical "lifeworld" (to borrow the term from Jürgen Habermas), and how they fit together is, this author believes, a major contribution of this work. Taking into account the additional benefits, such as introducing and presenting new ideas and new perspectives to IT professionals, the author considers the gains to outweigh the losses. It is also hoped that others will take these ideas as a starting point for further research.

Whilst the four perspectives taken in this research were chosen as a result of meetings with experts and the literature survey, working within these perspectives has been illuminating, and has generated a framework which may be useful in future work. It would be interesting to see, for example, to what extent computer-ethical issues can be accommodated by this framework, and what this might say about those issues that cannot be categorised.

This research does not claim to solve the problems of Internet ethics, indeed at the beginning of the research period it was hard to know even what Internet ethics incorporated. What this research has tried to do is to see how the problems that are being debated come about, and where their ethical "roots" lie. It has challenged some of the statements made by authors in the computer ethics field regarding the uniqueness claims, and has offered a different perspective on those claims (for example, Chapters 5 and 7). The objective of this research has been to provide a conceptual foundation of Internet ethics; a platform from which other work can take place. The Internet is developmentally still at an early stage, and the ethical implications are similarly only beginning to appear: computer implants, virtual reality, and intelligent agents are likely to raise even more challenging ethical questions in the future.

8.3 Further work

This research, conducted as it was at the beginning of a highly transformative stage of technological development, has only touched the tip of the iceberg. Consequently there are a number of opportunities for further work, both in a broad sense and also a narrower, more specific way.

Taking the broader view first, it has been noted that the focus of the work is from a western cultural viewpoint (Chapter 1, p. 9). Cultural backgrounds have a strong influence where discussions of ethics are concerned (for instance where religion plays a dominant role) and in this respect viewpoints from other cultures would enrich the ethical debate. The work described here offers an opportunity for others from different cultural backgrounds to compare and contrast their own, or others, ethical perspectives. Culture in this latter sense usually refers to national or ethnic identity, but culture can also denote other types of communities - business or educational, for example. In this sense this research takes its position from a computing science background, and considers the ethical implications of the Internet from that position, in particular focussing on practitioners and users. Future research which investigates the implications for philosophy and philosophers, for example, could provide other valuable insights.

In a narrower, more specific, sense, each of the four areas investigated here offer opportunities for further work.

From the technology point of view, there is room for further work in the application of ethical theory to the variety of subdisciplines coming under the computer science umbrella. Also, empirical studies of the perceptions of technologists to the ethical dimension of their work, and how ethics can more easily be introduced, would be extremely useful. It may be that the framework employed in this research can be applied to other areas, and employed as an educational aid for getting the "ethical message" across. This may be a way of addressing the question above, of how ethics can more easily be introduced to technologists. This a difficult but important task within the IT field, and is likely to be even more relevant in the future. A framework such as this, explaining common ideas within familiar categories may provide a good answer.

Further, more detailed, work on the subject of concepts, metaphors etc. may help to guide a more knowing approach in the future – this is tremendously relevant in this area given the current pace of technological development, and the unknown quantity of future technology.

From the regulatory perspective, it should be possible to develop a stronger framework, or matrix, not only for the analysis of ethical issues (or new or old issues) but other properties of the types of problems we are seeing.

Finally, work in the area of ethics is in itself ongoing, and seemingly never-ending. It would be useful to have some empirical evidence of Habermas theory of Discourse Ethics in practice, showing the extent to which it can work, and the conditions required.

8.4 Conclusions

The research elaborated in this thesis was performed with the aim of finding some means of clarifying the complexity of Internet ethics. A framework consisting of four perspectives has been developed as an aid to understanding the ethical issues. Taking these perspectives has allowed an exploration into aspects of the Internet which contribute to the problems of Internet ethics - demonstrated in chapters 4-7, and summarised above (sections 8.1.1-8.1.4). Using the framework has enabled us to answer the main question posed at the beginning of this research: "Why is the Internet provoking such an ethical debate?" (Chapter 1, p.1). Each of the four perspectives has given some insight into contributory factors:

- The technology itself raises issues concerning the responsibility of designers; and the technical solutions developed in response to concerns of access to harmful material, for example, have raised other ethical concerns.
- Metaphors and analogies used to describe the Internet, whilst capturing certain aspects, can be misleading in terms of attitudes to behaviour (for example, Cyberspace).
- Regulation, used as a tool to set standards and resolve ethical concerns, meets with difficulties in a global context, and also raises other issues.
- Ethical theory is criticized as not being adequate, prompting conclusions that the problems we are facing are unique.

Taking these four perspectives, and using them to investigate different contexts, has also provided a base for addressing the questions listed at the end of Chapter 1 (p.18), which were:

- Is it that the issues are new and do not easily fit with traditional ethical theory?
- Do we need a new ethics?
- Is it that we find some issues are a conceptual muddle?
- Are the problems simply to do with regulation?
- Should we even be thinking about ethics and technology? Surely its not the technology that is the problem, its the people who use it.

The answers this research provides are, in the case of the first two points, that the issues are not new, and that the bad fit with traditional ethical theory is not necessarily symptomatic of unique issues (Chapters 6 and 7). Having said that, there are particular difficulties with Internet ethics (such as global diversity) which may benefit from a new approach - such as discourse ethics.

In answer to the third point - are the issues a result of conceptual muddle? - I have argued that concepts play an important role in setting an appropriate context for ethical behaviour and expectations (Chapter 5). James Moor (1985) initially raised the idea of conceptual muddles with reference to software, this thesis has broadened the scope of the idea of concepts to include Cyberspace, emails, and information superhighway. In this broader sense there are issues which result from conceptual muddles such as attitudes to behavioural control, and expectations of privacy. The term "information superhighway" is a nice catch-phrase, but tells us very little about how to behave or what hazards one may encounter whilst "driving, and so is of little use in terms of giving an ethical context.

There are problems with regulation (item 4 on the above list) which have been discussed in Chapter 6, but as the rest of this thesis suggests, this is not the only source of the ethical difficulties.

Finally, the question of whether ethics and technology is a matter for discussion at all. This question has been addressed comprehensively in Chapter 4, and the conclusions drawn are that there is a tight relationship between the two; the recognition of which is of paramount importance. The constraints on users which are designed-in to computing technology (intentionally or unintentionally), and the vast impact of Internet technology in all spheres of life, brings ethics firmly within the domain of designers and computing professionals and places a moral responsibility at their door.

The work in this thesis demonstrates that looking at the problems in different ways stimulates thought and produces insights that can be helpful in understanding some of the ethical problems of the Internet. From the computing science perspective (which provided the environment of the research) it can clearly be seen that not everything can be solved by technology, but the choices made can influence the ethical debate. Using this framework as a tool - or conceptual probe - to assess where ethical difficulties lie, and with experience to pre-empt some of the problems, can be a valuable asset as the Internet develops.

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Appendices

List of appendices

Appendix A

1. *Ethics and the Governance of the Internet*,
   Berleur, J., Duquenoy, P., Whitehouse, D. (Eds.) (1999)
   IFIP, Laxenburg, Austria.

2. Duquenoy, P., (2000). "Virtual Education" in *Advances in Social Responsibility in the Information Age*. A report published by Centre for Computing and Social Responsibility at De Montfort University. (Simon Rogerson and Ben Fairweather, with co-authors: Jackie Rafferty, Penny Duquenoy and Chris Megone.) pp.19-26.

3. Draft briefing: "The Role of Self Regulation in Electronic Commerce" (EURIM: Briefing No. 25 - 25 March 1999) http://www.eurim.org/briefings/polstrat.htm

Appendix B

1. "UK views of ethical and spiritual implications of IT"
   Duquenoy, P., Thimbleby, H., Beale, N. (1998)
   Proceedings ETHICOMP98, Centre for the Philosophy of Information and Communication Technology, Department of Philosophy, Erasmus University, Rotterdam.

2. "Justice and Design",
   Duquenoy, P., Thimbleby, H. (1999)
   Human-Computer Interaction, INTERACT'99, M. Angela Sasse and Chris Johnson (Eds), IOS Press on behalf of the International Federation for Information Processing (IFIP).

3. "Internet ethics: changing concepts, changing ethics?"
   Duquenoy, P. (2000)
   C@MDX'00. Technical Report CS-00-02, Middlesex University, UK.

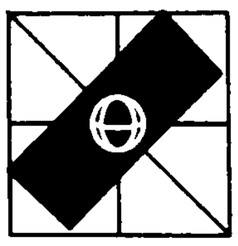
4. "The process of ethics"
   Duquenoy, P., Whitehouse, D. (2000)
   Computers and networks in the Age of Globalization, Leif Block Rasmussen, Colin Beardon, Silvio Munari (Eds.). Kluwer Academic Publishers.

5. "Towards a synthesis of Discourse Ethics and Internet regulation"
   Duquenoy, P., Thimbleby, H., Torrance, S. (1999)
   Proceedings: ETHICOMP 99, LUISS Guido Carli,Centro di Ricerca sui Sistemi Informativi, Roma, 1999. Edited by A.D'Atri, A. Marturano, S. Rogerson, T.Ward Bynum.

Appendix C

1. Position papers submitted by the author to "Advances in Social Responsibility in the Information Age", a series of seminars organised by The Centre for Computing and Social Responsibility, Leicester, between May 1998 – July 2000.

2. "The Internet and Discourse Ethics"
   Duquenoy, P. (2000)
   Hypertexto, First Edition, March, 2000. (http://www.hypertexto.com.br)



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Jacques BERLEUR, Penny DUQUENOY and Diane WHITEHOUSE, Eds.

IFIP-SIG9.2.2
IFIP Framework for Ethics of Computing
September 1999

ISBN 3-901882-03-0
Event number 1303

This brochure may also be found on the SIG9.2.2 website:
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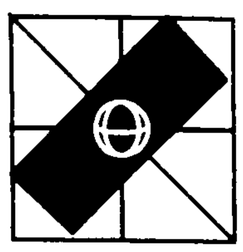

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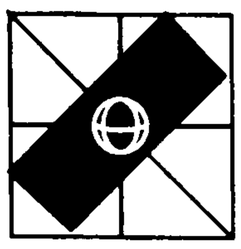
Contents



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INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING

Date: September 8th, 1999

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To: IFIP Members
Subject: Ethics and the Governance of the Internet

Dear Colleagues,

You probably remember that IFIP Technical and General Assemblies created, at the 1994 Hamburg meetings, a Special Interest Group on Ethics. It was the follow up of the survey we conducted on the Codes of Ethics and Conduct of our different Member Societies (see pp. 21-22).

By our letter dated May 8, 1998, we again contacted you to update our information about our ethical concerns inside IFIP.

Today we have prepared a new brochure that we hope could inspire our common reflection. It is the result of our work during the last two years, and of the discussions during the IFIP-TC9 HCC-5 (Human Choice and Computers) International Conference in August 1998.

May we draw your attention to some specific questions on which we would be happy to have your participation:

- **SIG9.2.2 Recommendations, pp. 16-17**
- **Questions Raised to the IFIP Members, pp. 17-18**
- **Summary of Resolutions, pp. 25-26**

This brochure may also be found on the SIG9.2.2 website, by clicking on SIG9.2.2 "Ethics and Internet Governance": http://www.info.fundp.ac.be/~jbl/IFIP/cadresIFIP.html

Many thanks for your attention and consideration.
Yours sincerely

On behalf of SIG9.2.2
IFIP Framework for Ethics of Computing

Jacques BERLEUR
IFIP-SIG9.2.2 Chair & IFIP-TC9 Chair

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Ethics and the Governance of the Internet
Introduction and Recommendations of IFIP-SIG9.2.2

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This introductory paper is intended as an overview of the current debates surrounding use of the Internet and regulation of the communications possibilities that the net offers. The paper lists a number of topics that have an ethical content, and highlights some issues that are coming to the fore in the debate. Finally, it makes a series of three recommendations to the member societies of the International Federation for Information Processing (IFIP), urging those members to take these suggestions on board. It also encourages IFIP member societies to answer ten very specific questions about the work that they may be doing in the area of ethics and the Internet.

"Internet Governance"?

Lists of websites may quickly leave the impression that the words "Internet governance" are linked today to the environment of domain name administration. Search engines readily refer to the homepages of IANA (Internet Assigned Names Authority), its substitute ICANN (The Internet Corporation for Assigned Names and Numbers), or the new IANA Corporation (Internet Addressing and Naming Authority).[1]

But when the CPSR (Computer Professionals for Social Responsibility) launched its "One Planet, One Net: CPSR Campaign on Internet Governance" in December 1997, it was "undertaking a broader examination of the issues in standards development, content development and control, and access to the Internet." "The Principles for the Internet Era" cover a wider area than simply domain names and addresses. They are principles intended "to counter the political, economic, social, and technical forces that (...) threaten the promise of open communication on the Internet."[2]

The European Commission's Information Society Project Office (ISPO) presents on its homepage the project of Internet Governance, and seems to come back to a narrower understanding. It mentions:

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[1] See http://www.iana.org and http://www.icann.org For the discussion with the European authorities, see for instance: Internet Governance, Reply of the European Community and its Member States to the US Green Paper http://www.ispo.cec.be/eif/policy/govreply.html

[2] The 1997 text of CPSR is reprinted in Annex 3 of the P. Duquenoy and D. Whitehouse paper, in this brochure. It may be found with other documents of the CPSR campaign at: http://www.cpsr.org/program/nii/onenet.html The question "Why Internet Governance?" is treated again in the Spring 1998 issue of the *CPSR Newsletter*.

- Management of Internet Names and Addresses,
- International policy issues related to Internet Governance,
- Internet Governance reply of the EC and its Member States to the US Green Paper, and
- Domain Names.[3]

We adopt a more open position than the European Commission, considering the currently predominant DNS (Domain Naming System) question as just one example of a larger debate among different interested parties such as technical organisations, businesses or groups of businesses, higher education institutions, and governments. The current debate between the USA and Europe also points to controversies over control of the Internet.[4] Everybody knows the issues at stake regarding Internet self-regulation, or in other words, the place of official governments and national or international authorities in ruling cyberspace, democracy on the Internet, its multi-culturality, the place of the developing countries in the universal service, etc.[5] We think that all these kinds of questions fall under the scope of "Internet governance".

As it will appear in the report on the rolling workshops and the round table held during IFIP-TC9 HCC-5 Conference, our approach has been inspired by a paper of Joel Reidenberg and suggests a three-way Internet governance: technical, self-regulating and legal.[6]

Do We Need Internet Governance?

The Internet has grown for a long time without too much regulation. Defining protocols and standards had been for a long time the most developed regulatory activity. But as soon as business took its place, the requirements changed. People present at the closing session of the IFIP-WCC'94 in Hamburg surely remember those who spoke about creating a "second Internet" dedicated to business, if safer measures were not to be taken. Standards and routing administration, encryption, digital signature, Internet service providers licensing, property rights, tariffs, computer crime, etc. were questions raised as soon as commerce came to the forefront.[7]

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3 http://www.ispo.cec.be

4 Communication of the European Commission to the Council, International Policy Issues Related to Internet Governance, 20 February 1998, http://www.ispo.cec.be/eif/policy/governance.html

5 One may be interested in consulting the categories of the "Quicklinks" of the European Legal Advisory Board to have an idea of the current topics in debate on 'Legal and *regulatory aspects of Internet* and the information society': Access to public sector information / IT in government, Competition, Computer crime, Consumer protection, Content regulation, Convergence of telecommunications, media and information technology, Copyright, trademarks and patents, Data Protection (privacy), Digital signatures, Domain names, Electronic commerce, Electronic democracy, Employment and social issues, Euro and millennium bug, Information society and Internet policy, Interception, Internet access and use, IT in education, Junk mail (Spam), Liability, jurisdiction and applicable law, Multilingual content and software, Multimedia content and tools, Protection of minors, Quality of service, Rating and filtering, Security and encryption, Self-regulation / codes of conduct, Standards, Taxation and tariffs, Universal service ('Links to news items about legal and regulatory aspects of Internet and the information society, particularly those relating to information content, and market and technology', edited by Richard Swetenham, EC, DGXIII, http://www.qlinks.net

6 Joel R. Reidenberg, Governing Networks and Rule-Making in Cyberspace, 45 *Emory Law Journal*, 911 (1996), reprinted in: *Borders in Cyberspace*, Brian Kahin and Charles Nesson, eds., MIT Press, 1997.

7 A list of some twenty issues is given on the "Issues" page of the European Electronic Commerce Initiative, http://www.ispo.cec.be/ecommerce/issues.htm

In particular, the management of Internet names and addresses is considered as critical to the stability and inter-operability of the Internet. The allocation of domain names is of utmost significance for the organisations concerned, users and trademark owners.

The debate is now lively because the key issue is "What kind of regulation?" Rules by governments or self-regulation by business and users? Because of its history, some highly sensitive features surround the concept of governance of the Internet. The Blue Ribbon Campaign and similar anti-censorship manifestations hark back to the origins, when the Internet was mainly a tool for research and education, i.e., operating according to the principle of 'academic freedom.'

Is more regulation needed? Those who advocate more regulation feel that the Internet today is chaotic and unmanaged and also weakly self-regulated. Examples were given during the HCC-5 session devoted to self-regulation. New associations created in the meantime do not alter these views. Most of the "codes" are created "to curb government regulation of the Internet" - it is even sometimes proclaimed as such. Here are some recent private initiatives:

- the Global Business Dialogue on Electronic Commerce: an initiative of top executives "to prevent conflicting governmental regulations from obstructing business in cyberspace."[8]
- the Electronic Commerce Platform Netherlands (ECP-NL): a platform coordinating initiatives in electronic commerce that has drafted a code of conduct, currently submitted for comments to "all interested parties," and proposed for discussion at both the OECD level and at a conference to be held in the Netherlands in the presence of US Commerce Secretary William M. Daley.[9]
- Electronic Commerce Europe, which considers that codes of conduct are the structuring approach to Electronic Commerce.[10]
- the ICRA (Internet Content Rating Association)[11]: the Bertelsmann Foundation is organising (Munich, September 9-11, 1999) a "summit" (sic) on "Self-regulation of the Internet Content". "The Internet Content Summit is the first milestone in the implementation of an international self-regulatory system to deal with the protection of minors online. The conference is organised and funded by the Bertelsmann Foundation in cooperation with INCORE (Internet Content Rating for Europe)."

One may wonder if such declarations or codes of conduct are not purely instrumental, i.e., aimed at making e-commerce or any use of the Internet or ICT systems more acceptable to the public. Undoubtedly, commerce is -- and always has been -- the big affair of mankind. It mobilises all the devices of creativity, including the newest technology. The sometimes hidden intention is to create a free-trade global market without customs, tax systems, and rules from the State.[12] The question is to legitimate the operation: rhetoric and metaphors may help!

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[8] Amy Harmon, Titans race to do the policing for the electronic roadway, *New York Times*, Jan. 18, 1999, http://www.gbd.org/library/newyorktimes.htm

[9] Code of Conduct for Electronic Commerce, Draft version 2.0, July 1999, http://www.ecp.nl/

[10] http://www.e-betobe.com/code/code.html

[11] The founding companies of ICRA include AOL Europe, Bertelsmann Foundation, British Telecommunications plc (BT), Cable & Wireless, Demon Internet (UK), EuroISPA, IBM, Internet Watch Foundation, Microsoft, Software & Information Industry Association, and T-Online Germany. http://www.stiftung.bertelsmann.de/internetcontent/english/frameset_home.htm

[12] Bernard Cassen, Adieu au rêve libertaire d'Internet, in: *Révolution dans la Communication, Manière de voir, Le Monde Diplomatique*, n° 46, Juillet-Août 1999, pp. 94-95.

About the codes -- let us repeat -- where is the power of sanction?[13] Are there any enforcement means? People know how sensitive these questions are. The "ICRA Summit" has prepared a long document about this specific question of "law enforcement".[14] But as far as we can see, associations where every individual member has to commit him/herself to abide by the code seem very rare!

In a way, SIG9.2.2 regards the opposition between private and public regulation as something to be overcome, and recommends a deeper cooperation of both sectors in the domain of governance. Controversial questions such as the relationship between self-regulation and the law must be confronted. The actual *credo* of a "socio-liberal third way" could lead to "disappropriation from the State."[15] Others speak about a "Governance Debacle," buried by politics.[16] Some suggest a distinction between "governance" and "institutional framework," and promote the latter.[17] Self-regulation with conditions, or embedded in an appropriate legal framework, could be satisfactory. The pending dialogue between the USA and Europe about the transfer of personal data to third countries and the interpretation of articles 25 and 26 of the European Directive on the protection of individuals with regard to the processing of personal data will be a very interesting case study on "self-regulation and/or the law" when it is resolved. The Directive mentions the necessity of examining the "appropriate level of protection" of the parties, whereas the USA speaks about self-defined "safe harbour principles."[18]

Do We Need Internet Ethical Governance?

If we need Internet governance, the question may be raised: "Do we need ethical governance?" And therefore also: "What does it mean?"

There is no need to dwell on it, since the IFIP Ethics Handbook has already elaborated this issue. Jan Holvast reminds us that Julie Cameron et al. state it very simply: "We need IT ethics because:

- IT is a powerful and constantly evolving tool,
- IT permeates all aspects of our lives,
- IT dependency creates vulnerability on a large scale,
- IT evolution and usage outstrips the formulation and implementation of policy and legal instruments.'[19]

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[13] See, f.i., J. Berleur and M. d'Udekem-Gevers, Codes of Conduct within IFIP and other Computer Societies, in: *Ethics of Computing: Codes, Spaces for Discussion and Law,* J. Berleur & Kl. Brunnstein, Eds., A Handbook prepared by the IFIP Ethics Task Group, London: Chapman & Hall, 1996, pp. 7ff.

[14] Prof. Dr. Ulrich Sieber, University of Würzburg, Law Enforcement, 112 p. (downloadable from the site of the Bertelsmann Stiftung)

[15] Riccardo Petrella, La désappropriation de l'Etat, in: *Le Monde Diplomatique*, Août 1999, p. 3.

[16] Milton Mueller, The "Governance" Debacle: How the Ideal of Internetworking Got Buried by Politics, INET'98 Proceedings, http://www.isoc.org/inet98/proceedings/5a/5a_1.htm

[17] ibid.

[18] Department of Commerce, Elements of Effective Self Regulation for the Protection of Privacy and Questions related to Online Privacy, (http://www.ntia.doc.gov/ntiahome/privacy/6_5_98fedreg.htm) Data Protection Working Party Working Document, Transfers of personal data to third countries: Applying Articles 25 and 26 of the EU data protection directive, DGXV D/5025/98 - WP12, 24 July 1998, http://europa.eu.int/comm/dg15/en/media/dataprot/wpdocs/index.htm

[19] Julie Cameron et al. (1992), Ethics, Vulnerability and Information Technology. op. cit., p. 344. Quoted by Jan Holvast, Discussion paper, in: *Ethics of Computing: Codes, Spaces for Discussion and Law,* op. cit., p. 47.

We ourselves have welcomed "a revival of ethics" stressing the re-appropriation of our daily life in the field of ethics, a kind of "life-world ethics" ("le monde-vécu"), in the sense of Jürgen Habermas.[20]

There has been a relatively easy consensus that ethics is necessary on the net when speaking about protection of minors and human dignity. The "Action plan on promoting safer use of the Internet" is part of a coherent set of policies at the European Union level to deal with illegal and harmful content on the Internet.[21] Other international organisations such as UNESCO have also developed actions to meet this general preoccupation. But this is probably the emerging part of the iceberg.

There are also other topics that could similarly be considered as urgent ethical issues which require our attention and determine our priorities. However, this may depend upon different factors such as the culture, the place where we are living and acting, the practices at work, the motivation of people, the interests at stake, etc. SIG9.2.2 proposal is a first exercise whose result we present here. We have classified the different topics into two categories, the first one into two sub-categories. So, the first sub-category deals with issues related to the protection of the individual (citizen and consumer). The second, with more collective issues or with the organisation of society. The last category is dedicated to topics which we feel have a more ethical content: this is why we have not only listed them, but have also given a short explanation.

We must finally add that, in our opinion, the distinction between ethical and social issues is not always quite clear today; one cultural environment may call ethics what is considered 'social informatics' in another.[22] There is at least one trap we should not fall into: the distinction between ethical and social must not be considered as parallel to that between individual and collective. We leave that distinction between ethical and social issues open, and refer to the current literature.

SIG9.2.2 Proposal of Topics to be Considered

We propose ongoing discussions within the IFIP Members Societies about the subjects that follow. SIG9.2.2 also has various recommendations to make, and these then follow also.

Topics Already Under Discussion

Protection of the individual (citizen and consumer)

- questions related to risk, security, reliability, vulnerability, liability, ... (for instance in e-commerce),

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[20] J. Berleur and M. d'Udekem-Gevers, Codes of Conduct within IFIP and other Computer Societies, in: *Ethics of Computing: Codes, Spaces for Discussion and Law,* op. cit., p. 13, and J. Berleur, Ethics, Self-regulation and Democracy, *ibid.*, pp. 241-256.

[21] European Parliament and Council, Decision No 276/1999/EC of the European Parliament and of the Council of 25 January 1999 adopting a multiannual Community action plan on promoting safer use of the Internet by combating illegal and harmful content on global networks, http://www2.echo.lu/legal/en/iap/index.html

[22] See f.i. H. Tavani, 'The Tavani Bibliography of Computing, Ethics, and Social Responsibility', http://www.siu.edu/departments/coba/mgmt/iswnet/isethics/biblio/. The ImpactCS (Impact Computer and Society) Project was presented as addressing "social and ethical impact of computing", http://www.seas.gwu.edu/seas/impactcs/

- privacy, identification, authentication (consumer), confidentiality, encryption, key escrow, trusted third party, ...
- protection of competition / avoiding monopolistic practices,
- intellectual property rights, copyrights, rights on software, ...
- computer crime / misuse,
- advertisements on the Internet: providing the customer with legal, decent, honest and truthful (adequate, accurate, ...) information.

Other questions (collective organisation of society)

- infrastructure ownership / monopoly (see for instance the Microsoft trial[23]),
- technological dreams, utopias, computer metaphors ... and all questions linked to awareness and education,
- impact on work and organisations,
- democracy/ organisation of the civil society in accordance with the "common good"; role of governments, political aspects, public policies, telecommunication policies, democracy, public security and order, ...
- self-regulation.

Topics With a More Ethical Content

- equity in the right of access ("universal service"),

  The importance of making information universally accessible and affordable has been stressed since the first declaration on the US National Information Infrastructure. Access to information is crucial for education, public health, ...; its accessibility to all will be a sign of democracy. The current situation cannot be considered as equitable.

- questions linked to the respect of the dignity of the person (protection of minors and human dignity; illegal and harmful content on the Internet, paedophilia, racial hate, denial of crimes against humanity, incitement to murder, to drug trafficking, to riot, ...),

  Many national and international organisations are preoccupied by the deleterious influence that the Internet could have in such matters. The time has come to confront the different ethics and approaches to these issues and to harmonise the practices, and combat such scourges.

- justice and social exclusion (mainly North-South, but also work distribution, ...),

  Social exclusion is unfortunately a concept which is still fully relevant when speaking about the Information Highways: there, we observe discrimination and exclusion of the elderly, gender imbalance, ... What does it mean to have at one's disposal all the means for efficient work when this is accompanied by a 10 to 12% unemployment rate (or even more in certain regions of the world) or with precarious jobs, and what does an information society mean where participation in its construction is kept in the hands of a few? Most probably large minorities in the Northern countries are in danger to be excluded from the information society. But overall everybody has also to remember - as President Thabo Mbeki argued in his keynote address to a G-7 Information Society

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[23] Computerwire's coverage of the Microsoft trial has been acknowledged as the most complete and insightful in the industry: http://www.computerwire.com/msoft/

Conference: "There are more telephone lines in Manhattan than in all of sub-Saharan Africa" and "half of humanity has never made a telephone call."[24]

- respect for the interests and the rights of the persons,

  The Universal Declaration of Human Rights includes rights which can have an application in the field of ICT: privacy (art. 12), freedom of thought (art. 18), free speech, freedom to seek, receive and impart information and ideas (art. 19), ... This makes sense when we know that there are still 45 countries where access to the Internet is more or less strictly controlled. This may also be called also "censorship" (see below). Today's research programs are also trying to develop concepts of cultural, economic, and social rights.[25] *There are also rights and interests of persons in commercial exchange, in daily life, etc. which may be affected by communications technology.*

- free speech / censorship,

  On the Internet, how to find a relevant balance between free speech and censorship (sensu lato, i.e., any kind of control)? What is the relationship between censorship and controlling the access to the Internet? Free speech and the First Amendment are arguments which are culturally located[26]*, and must be examined in other contexts. The freedom of the press is a possible approach. One cannot avoid confronting the freedom of speech with the concept of responsibility.*

- quality of life,

  The "whole person" - Does technology lead to an imbalance in mind, body, spirit? Quality is a subjective term, but refers to standards. Helpful questions for discussion might be: "What standard of life do we expect, and to what extent (if any) does ICT affect those standards?" and "In what ways might ICT enhance or diminish our self-worth?"

- right to information ("transparency"),

  The role of information in the relationship between the citizen and the administration as well as in an effective market requires that clear and sufficient information be given to the citizen or to the consumer. It implies, on the one side, easy access to government records. It also implies also, on the other -- in e-commerce for instance -- relevant promotional material, clear prices, terms and conditions brought to the attention of the customer, definition of complaints procedure, ... (See also above: "advertisement on the Internet")

- personal qualities (honesty, competence, ...),

  All professional codes of conduct emphasise the personal qualities - conscientiousness, honesty and positive attitude, competence and efficiency - of the individuals involved in that occupation or profession.[27]

- non-abuse of power (appropriate use),

  While power generally involves the use of force (particularly physical force); authority may be used to influence others through charisma; heritage; or particular attributes or skills (Max Weber).[28] *In relation to the Internet, many different actors have technical influence over the way in which individuals communicate. The appropriate behaviour of*

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[24] Information Society and Development Conference, 13-15 May 1996, Midrand, South Africa, Chair's Conclusions, http://www.ispo.cec.be/isad/isadconc.html

[25] Interdisciplinary Institute for Ethics and Human Rights, http://www.unifr.ch/iiedh/english/

[26] Among others: The Electronic Frontier Foundation and its Blue Ribbon Campaign for Online Free Speech (http://www.eff.org/), the Global Internet Liberty Campaign (http://www.gilc.org),...

[27] J. Berleur and M. d'Udekem-Gevers, Codes of Conduct within IFIP and other Computer Societies, in: *Ethics of Computing: Codes, Spaces for Discussion and Law,* op. cit., pp. 28-31.

[28] Max Weber (1947*), The Theory of Social and Economic Organisation*, Free Press.

authorities can be explored at several levels: the roles of the various international and federal authorities, including the police and security forces; Internet service providers (ISPs); computer service providers in educational establishments and in commercial organisations; and the activities of Internet users themselves. Debate is to be encouraged about the appropriate activities of both individuals and services, and how all these parties should ideally act (lawfully, democratically, and in an egalitarian manner).

- respect for cultural differences,

  In the face of U.S. cultural supremacy in many domains (for instance in values conveyed by current filtering services), European, Asian, Latin American, and African countries must be encouraged to make respect for cultural differences a major concern.

- freedom of choice in the use or non-use of the Internet,

  Neo-Luddism?[29] Could we exist without communications media that employ the highest of high technology? Most of us would certainly agree that there is much to criticise in many manifestations of modern technology. The sorting out of what works from what doesn't - and why, and if it is needed - is the kind of public dialogue about technology that we need. Technology is thought, action, information, invention - it exists for human beings.

- grounding "virtual" life in the physical realm.

  Many people are concerned that the increasing importance of 'virtual life' will have serious psychological and social implications. Proposals have been made to encourage the use of computing to support rather than supplant real life. For example, 'community nets' are geographically based networks that help enhance real participation within a specific locality (e.g. neighbourhood, village).

Recommendations

1. SIG9.2.2 recommends to IFIP members, and mainly its national or regional Societies, to represent an ethical approach when involved at the national or regional level on Internet governance policies, where key ethical issues will be defined by the specific concerns of particular nations. Some of the issues that may be of concern are those set out and classified above under the title "Topics with a more ethical content". SIG9.2.2 offers its services to act as a rapporteur, and to share with other IFIP members what has been done by IFIP Members Societies and others, and what is still to be done (see the list of "Questions Raised to the IFIP Members" below).

2. SIG9.2.2 endorses the recommendations proposed during the HCC-5 Round Table. They are listed hereafter in the "Summary of resolutions" of the Report of P. Duquenoy and D. Whitehouse. Let us already mention some of them here.
   Let IFIP:
   - act to mitigate unequal access to the Internet,
   - use the Internet to develop a cross-cultural approach to the search for peace on earth,
   - focus on children and families and their need to access the Internet to further their learning experiences. Promote netmaking, rather than networking, with kids.
   - organise an active debate with North America on some more controversial questions relating to the ethics of the Internet,

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[29] http://www.luddites.com/

- develop a channel or open forum for the expression of an Asian/Confucian ethics of computing.

3. SIG9.2.2 highly recommends that IFIP members (individuals, full member Societies, associates, affiliates, corresponding, ...) be present in the different constituencies where ICT (Information and Communication Technology) uses are discussed and where ethical principles would have to be considered in order to promote these principles.
   As examples of constituencies, SIG9.2.2 suggests among others UNESCO and its World Commission on the Ethics of Scientific Knowledge and Technology,[30] the European Commission and especially its Information Society Project Office, the different associations where issues are discussed (see the above mentioned Internet Content Rating Association, the Electronic Commerce Platform Netherlands, the Global Business Dialogue, ...; but also associations such as the Internet Society, the Electronic Frontier Foundation, the Computer Professional for Social Responsibilities, Privacy International, etc.)
   As far as ethical principles are concerned, SIG9.2.2 names the issues at stake, among others, in the above mentioned Action Plan of the European Commission on promoting safer use of the Internet or in Electronic commerce,[31] or in property rights (e.g. plagiarism would be a specific ethical issue), etc. Other issues may be found in our list of topics. The CPSR "One Net principles" that we already mentioned and which are reprinted below could be also considered as deontological principles.

Questions Raised to the IFIP Members

Let us conclude this introductory paper by raising some questions that we would like to see examined by IFIP Member Societies. Faithful to its creed of creating spaces for discussion locally and internationally, SIG9.2.2 will be happy to report on the answers it receives on the following questions:

1. Is there a specific ethical Committee in your Society?
2. If your Society has no specific Ethics Committee, does it have a particular group in charge of handling ethical questions?
3. Do you intend to work on the recommendations of this brochure? How?
4. Has your Society already taken action on any of these recommendations?
5. On what specific topics related to ethical matters has your Society been working in the last two years? As an international body, SIG9.2.2 would be happy to compare which are the specific ethical issues related to the governance of the Internet, as they are perceived by different cultures or in different countries.
6. Is there any written document resulting from your work? Is it available, and where? Could you put it at the disposal of SIG9.2.2, and specify if it is public, and can be circulated?

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30 http://www.unesco.org/ethics/uk/connaissances/

31 Electronic Commerce is often considered today as one of the "killer applications" of the Information Highway. For the USA, see the official site of the Department of Commerce, United States Government Electronic Commerce Policy, http://www.ecommerce.gov For Europe, Electronic Commerce and the European Union, http://www.ispo.cec.be/ecommerce/. But there are lots of other sites, by country, such as for France, Mission commerce électronique, http://www.finances.gouv.fr/mission_commerce_electronique/, without forgetting the G8 pilot project 'A Global Marketplace for the SMEs', http://www.ispo.cec.be/Ecommerce/g7init.htm

7. In which national or regional organisations or groups is your Society present and active on ethical matters?
8. Can you describe, for the benefit of other IFIP members, some of the results of your activities?
9. Has your Society a Code of Conduct/Ethics? What was its date of publication? Is it on your website, and could you give us the exact URL? Is it translated, and available on the Internet in English? (Enclosed is the list of IFIP Member Societies codes at our disposal, with the latest dates of publication or revision.[32])
10. Does your Society intend or feel a need to update its Code of Conduct/Ethics according to the new uses to which the new technology can be put (Internet, e-commerce, tele-medicine, etc.)? In case your Society has already completed this work, can you provide SIG9.2.2 with the updated version?

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[32] Some of them are available or referred to on the site of J.A.N Lee at Virginia Tech, or at the Centre for Computing and Social Responsibility, De Montfort University, Leicester, UK,
http://ei.cs.vt.edu/~cs3604/lib/WorldCodes/WorldCodes.html
http://www.ccsr.cms.dmu.ac.uk/resources/professionalism/codes.

IFIP Computer Societies and their Codes

1. IFIP National Member Societies

- ACM (Association for Computing Machinery, USA): ACM Code of Ethics and Professional Conduct (1992)
- ACS (Australian Computer Society, Australia): ACS Code of Ethics (Received 1993)
- AICA (Associazione Italiana per l'Informatica ed il Calcolo Automatico, Italy): Codice di Condotta Professionale dei Soci Ordinari AICA (Engl. transl. 1993)
- BCS (British Computer Society, UK): BCS Code of Conduct: Rules of Professional Conduct (1992), BCS Code of Practice (1978)
- CIPS (Canadian Information Processing Society, Canada): CIPS Code of Ethics and Standards of Conduct (1985)
- CSI (Computer Society of India, India): CSI Code of Ethics (1993)
- CSSA (Computer Society of South Africa, South Africa): CSSA Code of Conduct (1988)
- CSZ (Computer Society of Zimbabwe, Zimbabwe): The CSZ Code of Ethics for Institutional Members (1992), The CSZ Code of Ethics for all Individual Members (1992), The CSZ Code of Professional Conduct for Individual Corporate Members (1992), The CSZ Code of Professional Conduct for Registered Consultants (1992), The CSZ Training Accreditation Code of Practice (1992)
- FIPA (Finnish Information Processing Association): Code of Ethics (1999)
- GI (Gesellschaft für Informatik, Germany): Ethical Guidelines of the GI (1994)
- ICS (Irish Computer Society, Ireland): ICS Code of Professional Conduct (1994)
- IEEE (The Institute of Electrical and Electronics Engineers, Inc., USA): IEEE Code of Ethics (1990)
- IPSJ (Information Processing Society of Japan, Code of Ethics) (1996)
- NZCS (New Zealand Computer Society, Inc., New Zealand): NZCS Code of Ethics and Professional Conduct (1978)
- SCS (Singapore Computer Society, Singapore): SCS Professional Code of Conduct (1990)
- SIPIS (Swedish Information Processing Society - Dataföreningen i Sverige): Acceptable Use Policy of SUNET, and Ethical Rules for SUNET (1995)

2. IFIP Affiliate Member Societies

- CEPIS (Council of European Professional Informatics Societies, Europe): CEPIS Code of Professional Conduct (1992)
- SEARCC (South East Asia Regional Computer Confederation, South East Asia): SEARCC Code of Ethics, and SEARCC General Guidelines for the Preparation of Codes of Ethics for Members 1993)

Governance of the Internet: An Ethical Point of View
Report on a series of rolling workshops at the IFIP-TC9 Fifth World Conference HCC-5 (Human Choice and Computers)

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Preface

The International Federation of Information Processing (IFIP)'s Special Interest Group on a Framework for Ethics of Computing (SIG9.2.2) exists as a result of an Ethics Task Group set up by IFIP's General Assembly in September 1992.

In the early nineteen nineties, a debate took place in IFIP about the possibility of establishing an IFIP Code of Ethics. Initially, an Ethics Task Group was set up to explore this possibility. In order to complete its task, the Task Group undertook to survey the codes of ethics of the various IFIP member societies.

As a result of this assignment, the Ethics Task Group published an in-depth analysis of thirty-one codes of ethics/conduct (Berleur & Brunnstein, 1996). This handbook contains specific recommendations that were adopted by the IFIP General Assembly in Hamburg in 1994. Those recommendations led to the foundation of the Special Interest Group on a Framework for Ethics of Computing (SIG9.2.2) and its various activities.

The handbook provides a wide range of material necessary for IFIP's member societies to consider when introducing or revising a code of ethics (or a code of conduct, or guidelines). It includes over thirty computer societies' codes and their analysis; comments on the most important codes; the philosophical background of cultural diversity; and papers on some more sensitive questions.

It is not IFIP's intention to provide its member societies with precise guidelines for particular codes. Rather, it advises them to consider its recommendations when writing or updating their own. IFIP does not actually state what 'ethics' the national societies should espouse when designing or adopting a code. It outlines that there are certain principles that all the national societies might wish to bear in mind.

In accordance with the diversity of histories, cultures, social and political backgrounds of IFIP member societies, IFIP regards it as essential that, when wanted or needed, codes should always be developed and adopted within the member societies themselves. IFIP offers its expertise in assisting these developments, collecting and disseminating material about established codes, and organising international debates on further developments.

Creating Spaces for Discussion

One of the special interest group's main activities is to create spaces for discussions. This is done in various ways (Berleur & Brunnstein, 1996: 263):

- submitting, for example, through the IFIP Newsletter, specific ethics case studies, and encouraging members to submit their own responses;
- making available all the up-to-date codes of IFIP national societies, with related pointers to existing documentation for further research;
- publishing, as foreseen in the European Directive, "the codes which have been the subject of a favourable opinion ..." (Directive 95/46/EC);
- providing a Forum - under the Chairmanship of the IFIP President - where discussion can be raised about harmonising codes of societies, in order to prevent restrictions in one country being prejudicial to another;
- participating in international forums where similar questions are treated; and
- assisting in the resolution of conflicts which could arise between national codes that are completely different.

On behalf of IFIP, the special interest group collects, compares and disseminates knowledge on developments in the national societies.

The special interest group's most recent initiative was to develop a series of workshops on the ethics of computing as its contribution to IFIP's 5th World Conference on Human Choice and Computers (HCC5). This conference, which took place in Geneva, Switzerland in August 1998, had as its main focus human choice in the age of globalisation in relation to computers and networks.

Governance of the Internet - Ethical Point Of View

Round Table on Rolling Workshop - Chair: Prof. Jacques Berleur

At the conference, a series of three workshops focused on issues related to the governance of the Internet. Three main forms of Internet governance were presented: technical controls, self regulation (that is, norms regulated by professional or trade associations), and legal controls.

The week of workshops culminated in a round table. The aim of this round table was to have discussion on the ethical issues and ideas arising from the previous three workshops. The round table's main points of discussion, and its ensuing resolutions, are described in detail here. Supporting materials from the workshops are contained in the appendices.

Attendees approached Penny Duquenoy the rapporteur) throughout the first two days of the conference to express their ideas and willingness to take the floor, and to give short, individual presentations to the audience at the round table. The presentations were as follows:

Prof. Colin Beardon (Plymouth University, UK)

Prof. Beardon was concerned that the impression in the first session on filtering/blocking software presented a rather 'negative' aspect of ethics: i.e. the workshop appeared to advocate

blocking or suppressing free speech and freedom of choice; thereby, encouraging a culture where values were attributed by third parties rather than by individuals. He wanted to see a different approach from censorship taken, and he cited the analogy of ethical investment by proposing the idea of "ethical gateways". In the same way that an investor can choose to invest in companies that pursue an ethical policy (from information given by an investment adviser), an individual could choose to support ethical practices on the Internet (via an ethical gateway). This type of approach re-establishes ethical responsibility with the user, engaging the user in ethical choices. To take an active ethical position sometimes requires 'hard choices'. For example, Greenpeace is promoted as an ethical organisation and is very action-oriented. As far as professional ethics (and associated codes of conduct) are concerned, there is a choice between a 'third party' approach (that is, when behaviour is monitored or controlled by a third party) and a more individually 'engaged' position.

Mr. Gunnar Wenngren (Linköping University, Sweden)

Mr. Wenngren's question also arose from the first workshop on filtering/blocking software. He pointed out that there were ethical issues in the evaluation of the criteria used to filter or to block in filtering/blocking software. The advisory groups for the various organisations and providers of software pronounce themselves representative of the Internet community. This announcement in itself is questionable. As far as the evaluation of the Internet is concerned (and the groups involved in the evaluations), several questions are raised: "who are the groups?", "what is their culture?", "are they a minority?", "what are their values? ", and "do they even exist?". The answers to these questions are relevant in an assessment of their authority and credibility. Further research would be useful. Values are very different between cultures. For example, in Switzerland prostitution is legal and regarded as a service whereas a prostitute in Afghanistan would be executed.

Although the groups undertaking the rating describe themselves as "advisory", there must be someone who makes the final decisions. Who are these people? Also, if a small subsection of a site is filtered, is the whole site filtered? In addition, it seems that some vendors choose to filter simply because they do not like a certain page or organisation. It is therefore right to ask the question "what sites are on the banned list?". This information should be publicly available.

Finally, filtering software can be automatically included in off-the-shelf products. These decisions are in the hands of a very few people.

Prof. Leif Bloch Rasmussen (Copenhagen Business School, Denmark)

Codes of ethics often enter the scene when a professional association is in crisis - that is, after the particular event causing the problem has occurred. For example, in the United States currently, the medical profession is assessing its behaviour at the very moment that it has become publicly known that syphilis research on black Americans was undertaken earlier in this century without the knowledge of the persons involved. Within communities, ethics and morality have been variously described by philosophers. The Danish philosopher K. E. Løgstryp talks about spontaneity, sovereignty, and a life of caring and helping when people are in need, and Pierre Bobillier suggests that morality is with mother and child. To bring these themes together, Prof. Rasmussen proposed that IFIP should concentrate on an initiative that examines the role of children and their families in relation to information and communi-

cation technologies. They should be viewed as learning entities which need access to the Internet. Let IFIP become the first ethical community!

Drs. Marc van Lieshout (Dept. of Informatics, University of Nijmegen, The Netherlands)

In the last presentation of the round table session, Drs. van Lieshout expressed his doubts regarding self regulation. His view is that the development of technology provides a choice between Faust and Frankenstein (a means to entertainment and amusement, but with a debt to pay). Although not a particular advocate of regulation/legislation, he foresees the alternative of self regulation as leading to a development of norms and values that are imposed on users by, for example, software companies, leaving the user with no free choice. Society is developing a view of people that is based on fun and entertainment - should this view set the foundation of ethical behaviour? For these reasons, it may be impossible to resist the power or the pressure to regulate in a more formal way. To return to philosophy, Drs. van Lieshout reminded the audience that, according to Emmanuel Lévinas, our conscience lies in the face of the 'other', and that we perhaps need that tension in order to ground our ethics.

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* *

Discussion during this session was then open to the floor. Two general issues were raised that have previously been of concern to the special interest group on ethics (Berleur & Brunnstein, 1996: 241-56):

- were all the items for discussion within the series of workshops (and within the special interest group more generally) (such as intellectual property rights, security, and reliability) actually ethical issues?
- are ethics relative or fundamental? How possible is it to arrive at a universal set of ethics that is appropriate to all individuals? Alternatively, are there different sets of ethics relative to various broad cultural areas of the globe, such as the Far East, Europe, and North America?

It should be noted that the IFIP General Assembly has already given its pronouncement on these questions. It favours the discussion of ethics in all countries rather than promoting the idea of one code (Berleur & Brunnstein, 1996: 257).

An important suggestion was to think in terms of what we could strive for. Could there be a common starting point - for example, cross cultural values such as non-aggression, and peace? (Professor Gunilla Bradley) This proposal was supported. It was suggested that we question the underlying assumption of the Internet as an infinite resource, which it is not (e.g. unequal access), and that we look at the issues arising from a finite resource.

Finally, there were some comments from the floor regarding the document "One Planet, One Net : Principles for the Internet Era" drafted by Computer Professionals for Social Responsibility (CPSR). The remainder of the discussion was dedicated to a review of this document (see Appendix C).

Niklas Damiris, Visiting Scholar at Stanford University, Stanford, California, USA suggested that "There could be a re-thinking or a re-writing of the seven principles of the Computer Professionals for Social Responsibility charter".

Six very specific observations were made with regard to the document:

i) The CPSR document mentions rights but does not stress responsibilities enough. Rights should be linked with responsibilities.
ii) There is a need for debate with the United States US) regarding censorship. Americans' use of the First Amendment closes all avenues of discussion (i.e. freedom of speech takes priority over censorship).
iii) The document is written from an individual point of view, an individual who has free choice. The document presupposes we know what being socially responsible is.
iv) The word "freely" or "without restriction" should be added to item 3 of the document (Net users have the right to communicate). It is vital that freedom of speech should be upheld, notwithstanding the dangers that this brings with it.
v) As far as governance is concerned we have several models. However, because the US model is the first to emerge on the Internet we are in danger of adopting only North American rules rather than formulating rules from other cultures. This view of things will be unrepresentative; for example, the Asian view (if we take it from the perspective of a majority of the world's population) is important. We have a new opportunity to define a form of global government. Quite how this is to be achieved, we do not know.
vi) It was pointed out that, as an international federation, IFIP is well placed to obtain international views.

Another comment was that, since the Internet is international, then we should look to international law. However, it was pointed out that the basic principle of international government is sovereignty of countries. The Internet is one overriding entity - are we able to regulate it?

Summary of Resolutions

A number of proposals for action by IFIP emerged from the discussions in the final session. These included suggestions for activities at various different levels of the federation (whether within its special interest group on ethics or through its series of conferences on Human Choice and Computers).

No definitive decision was made at the conference on which of the following proposals would be adopted. That decision-making forms the next stage of the special interest group on ethics' activities.

Broadly, the philosophy underlying any such efforts - shall we call it a pro-active philosophy? - was encapsulated in the ideas voiced by Professors Colin Beardon, Gunilla Bradley, and Leif Bloch Rasmussen. Let IFIP:

- act to mitigate unequal access to the Internet (Colin Beardon).
- use the Internet to develop a cross-cultural approach to a search for peace on earth (Gunilla Bradley).
- focus on children and families and their need to access the Internet to further their learning experiences. Promote netmaking, rather than networking, with kids (Leif Bloch Rasmussen).

Three specific areas of research to be undertaken by the special interest group on ethics were proposed from the floor:

- what are the principles underlying the internationalisation of any laws on the use of the Internet? (Andrew Sloane)
- can what has been learned from the United Nations' experience of developing a Universal Declaration of Human Rights (and its application over fifty years) be applied to IFIP? (Ruud Van Gael)
- a study of filtering software to illustrate ethical behaviour. (Richard Sizer)

Finally, the following proposal was made:

As part of its mandate, IFIP must act to promote public discussion about the ethics of computing. These discussions could take place on relevant topics. In such a forum, IFIP might:

- organise an active debate with North America on some more controversial questions relating to the ethics of the Internet (Jacques Berleur).
- develop a channel or open forum for the expression of an Asian/Confucian ethics of computing (Bill Bishop).
- formulate its own guidelines for a charter on rights and responsibilities in the age of the Internet (Richard Sizer).

Overview

The series of workshops provided an ethical focus or theme for the conference as a whole. The discussion served as a reminder that computer scientists' involvement with information technology, and specifically with the Internet, brings certain professional responsibilities.

The format of the workshops was considered to have worked well. The factual giving of information, with time allotted for discussion and deliberation among participants and between sessions, allowed a more informed and conscious debate in the final round table.

The success of the workshop series means that this is likely to be a format that the special interest group will use again in the future.

The proposals that were made enable the special interest group to move ahead in its work. It must now decide on its next activities, bearing in mind the input, feedback, and suggestions that it has received from a wider audience. Several stimulating, concrete, and positive suggestions were made which fit well with IFIP's basic premise of creating forums for discussion on the ethics of computing rather than laying down a mandate for the behaviour of each of its societal members.

The ethical challenges posed to all members of society by the increasingly global use of information technology (and particularly by the Internet) are considerable, and will require much further careful thought as we move into the next century, and indeed the next millennium.

For Further Information

SIG9.2.2 welcomes the continued participation of a wider audience to its initiatives. Anyone wishing to learn more about this special interest group and its activities, should visit the group's website at:
http://www.info.fundp.ac.be/~jbl/IFIP/sig922

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APPENDIX A

A1. Background to the Workshops

At HCC5, SIG9.2.2 organised a series of rolling workshops and a round table with a focus on 'ethical governance of the internet'.

The format of the workshops and round table was somewhat in the nature of an experiment. Rather than simply host the round table and present conference delegates with topics for discussion, the emphasis was placed on active audience participation. The rolling workshops were specifically designed to introduce topics relating to regulation of the Internet to the participants. Although the topics covered were considered to contain an ethical perspective, the papers presented were deliberately devoid of ethical opinion. The intention was to offer the audience 'straight facts' so that they could assess the ethical dimensions of the questions for themselves. The idea behind this experiment was to provide conference delegates with concrete information so that they could give these matters some thought in advance of the round table session. They would then be able to participate more fully, and fruitfully, in the round table. It was planned that the structure of the round table session would evolve from comments collected from the delegates following the presentations, and that some members of the audience would become the presenters at that session.

To create a sense of continuum and participation, a member of the special interest group (Penny Duquenoy) was elected as rapporteur or 'collector of ideas' from the audience. Her remit was to provide a summary of the previous workshops at the beginning of each workshop session. She was also asked to collate any opinions on ethical matters expressed to her by members of the audience during the week.

A2. The Workshops

There were four workshops of approximately one hour each, arranged at intervals during days 1 and 2 of the Conference. The round table was held on the final day of the Conference.

The main theme of the series of workshops was the governance of the Internet. The workshops explored three main forms of governance: technical controls; self regulation (that is, norms regulated by professional or trade associations); and legal controls.

Rolling Workshop - Introduction
Chair: Prof. Jacques Berleur (Chair SIG 9.2.2)

The first of the workshops was an introductory one. It was chaired by Prof. Jacques Berleur, who explained the nature and theme of the workshops to the audience. The audience was made aware of the participatory nature of the events, and Prof. Berleur introduced Penny Duquenoy as the contact person for their views on ethics. The audience was requested to refrain from discussions about ethics until the round table, but any questions to clarify the content of any presentation were answered at the time of the workshop.

As an aide-memoire to the ethical focus of the series of presentations, the members of the audience were asked to bear the following questions in mind :

What are the main ethical issues?

i) Should the Internet be regulated?
ii) By whom?
iii) How (including cost effectiveness)?

In addition, the Computer Professionals for Social Responsibility (CPSR) document "One Planet, One Net: Principles for the Internet Era" was put forward as a discussion document. It was intended that comments and observations could be relayed back to the CPSR.

Technical Means to regulate the Internet
Chair: Eur. Ing. Richard Sizer (Member SIG 9.2.2)

The second workshop was the first in a series of presentation sessions. Two papers were presented, one on technical controls of the Internet and the other on filtering software.

"Internet Convergence and Technical Control" Prof. Joseph Kizza (University of Tennessee, Chattanooga, USA)

This paper presented the Internet as a combination of three media: communications, computer services, and broadcast. Each medium has its own problems in terms of governance and control. Within the communications area, there are ethical issues which may be a function of the level of security of the information held on databases at servers or the security of the data during transmission. With electronic commerce "predicted to be one of the fastest and largest components of the Internet within the coming couple of years", the security controls (involving both hardware and software controls) are related to server security, server access, and transmission. Technical security controls currently in use include firewalls (protection of the server) and cryptography (protection during transmission).

In the Computer Services medium, the loopholes in security are evident. Complex operating systems are exposed to risk in a variety of ways, such as hacking, fraud, and safety critical software. Again, security is the main issue.

From the point of view of the Internet as a broadcast medium, several issues (already well known in this medium) arise. These are issues of free speech, access, intellectual property, child pornography, harassment, and security. One of the technical methods of control is the Platform for Internet Content Selection (PICS), which provides standard of labelling web pages according to their content. This technology can be adopted by groups or individuals to set their own criteria for rating and accepting or rejecting web pages, leading to the development of filtering or blocking software.

"What can be regulated on the Internet by control/filtering software?" Dr. Marie d'Udekem-Gevers (Cellule Interfacultaire de Technology Assessment, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium)

This paper outlined a description and criticism of control/filtering software. It set out the social and ethical implications of the processes involved in control/filtering (for example, setting labelling vocabulary and assigning labels). The approaches taken to control content

vary from suggesting appropriate sites, searching, informing, monitoring, and warning to blocking. Control can relate to topics (taking place at the entry point to an address and based either on ratings or "not/black list", or at the level of the content itself) or to time. PICS introduces a separation between labelling and filtering : consumers can choose their filtering software and label sources independently. However, questions arise such as :

i) Who has set labelling vocabulary and criteria for assigning labels?
ii) Who is in charge of assigning labels?
iii) What are the possibilities for customising the filtering software?

In a sample of ten ratings analysed by the author, nine are in English (one was written in Italian) and six use criteria defined in the US, the remaining four comprise Canada (2), the United Kingdom (1) and Italy (1). The most frequent categories in the sample are 'sex' and 'violence'.

Following these two presentations, the questions and concerns from the audience were:

"Is it possible to see which sites are on any filtering "not/black list"? Concern was expressed that certain sites could be arbitrarily black-listed (for example the suppliers of a filtering system could pre-set the system to exclude a competitor's web page). If black-lists are used, and the list is withheld from public view, any third party rating service has the power to dictate accessibility (i.e. inclusion or exclusion).

"To what extent is it possible to have a system of technical controls?" The point was made that as technical controls are introduced, technical 'antidotes' are also found. (For example, the introduction of filtering software has also brought bypass-filtering techniques.)

Self-regulation of the Internet
Chair: Penny Duquenoy (Member SIG 9.2.2)

This third workshop presented delegates with an overview of various means of self-regulation (through codes of conduct or charters). One paper was presented which is summarised below.

"Governance and Self regulation" Prof. Jacques Berleur, (Cellule Interfacultaire de Technology Assessment, Facultés Universitaires Notre-Dame de la Paix, Namur, Belgium)

As far as governance of the Internet is concerned there is now a call for self regulation. This presentation identified what is meant by self regulation (voluntary acceptance of rules of behaviour by a group), and showed the methods employed by Internet users to establish some system of self regulation (e.g. codes of conduct).

The methods classified under self regulation are diverse. They range from a variant of the "Ten Commandments", through to Netiquette, virtual communities' rules, charters, codes of ethics, and codes of Internet Service Providers (ISPs). Of course, with such a diversity of groups (and diversity of motivation) the priorities, and nature, of issues and principles differed. For example, the first item on the list of topics of the French Internet Charter Proposition aims to protect what they see as a "new space" (i.e. Cyberspace) of free expression and liberty, whereas the first item on the list of service providers refers to the legality of material. However, some generally agreed principles emerge (although the wording of the particular

charters or codes differs). Some common principles advocate fairness, respect, honesty, sincerity, privacy, intellectual property rights, free speech, and seek to discourage computer crime and illegal, dubious, or harmful material.

Although self regulation is effective in several areas, in matters that specifically concern ethics, a number of issues still need to be addressed including: questions of participation; 'places' (physical or virtual) where self regulation is applicable; and enforcement. To be effective, regulations of codes or charters must be seen to be applied. Even where some sort of complaints or feedback procedure is in place, it is unlikely that any organisation will advertise its shortcomings, or inform the general public of weaknesses in its security. This poses some difficulties in evaluating the success/effectiveness of self regulatory procedures. It also seems that, in some instances, codes of conduct or charters are little more than "propaganda statements" or self-defence provisions.

Following this presentation, some comments from the audience included :

Items mentioned in some codes of ethics/charters (e.g. fraud) are criminal offences. To focus a fruitful debate on 'ethically grey' areas, it might be helpful to distinguish between 'illegal' and 'unethical' activities.

The Internet - The Role of the Law
Chair: Prof. Joseph Kizza (Member SIG9.2.2)

This session offered delegates information on the legal issues currently under discussion with respect to the Internet. One presentation was made, as below.

"The Role of the Law" Laetitia Rolin (Centre de Recherches Informatique et Droit, Namur, Belgium)

This presentation focused on two issues of current concern to users of the Internet:

i) privacy,
ii) protection of copyright.

The debate concerning privacy began with the question, "Is privacy a matter of ethics or economy?". First the position held by the United States was outlined, followed by the position held by the European Union.

In the United States, the trend (although there are strong opponents) is for the private sector to lead the way. The government recognises the unique qualities of the Internet and is keen to avoid placing undue restrictions on its use. Electronic commerce is to be facilitated.

Statistics in the United States show that Internet users are concerned about their privacy, and the use of their private data. They also show that more people would use the Internet if their privacy were protected in some way. The implications are, therefore, that the use of the Internet for commercial purposes is not realising its potential, and the future expansion of the Internet is at risk.

The United States government believes that trust and confidence in the Internet must be restored in order to maximise its commercial benefits. An example of one mechanism to build trust comes from a private-sector initiative called TRUSTe, a standards-setting organisation that provides web pages with a recognised seal of approval. However, confidence is not being restored as fast as the Federal Trade Commission would like, and the Commission has demanded that effective self regulatory measures should be implemented before early 1999. If this does not happen, additional government measures will be deemed necessary.

Non-governmental measures, such as market sanctions can be helpful for the effectiveness of self regulation. In the case of privacy, shares in the Internet Service Provider, Geocities fell heavily following public exposure of its practice of selling information from its database.

Where government measures do exist, for example the Electronic Communications Privacy Act, these measures are not necessarily effective. In the McVeigh case in the United States, information regarding McVeigh was gained illegally (by his employer the United States navy) and given illegally (by his service provider). The Electronic Communications Privacy Act states that information regarding a subscriber may not be given to a governmental entity without a warrant or court order. In this case, personal information regarding McVeigh was obtained by the navy and used in court as evidence of behaviour which would lead to his discharge from the service. [33]

The position taken by the European Union is expressed in its telecommunications directive which argues the confidentiality of personal data. The link between privacy, confidence and trust, and the influence of these issues on electronic commerce is also recognised. However, as far as legal sanctions are concerned, there are problems because of conflicts in definitions. For example, is personal information held by Internet Service Providers traffic and billing data or the collection of personal data? Different rules apply to these categories. There is a lack of clarity in definitions of roles and scope of the actors involved. [34]

On the question of copyright, there is a tension between the law and technique. Technical solutions for resolving privacy on the Internet focus on the mechanics (techniques) of production rather than on the content of the work. If this concept is followed, and content takes a secondary position (or is ultimately ignored), the nature of copyright will be altered, and we could see the "death of copyright". This would have serious ethical consequences as far as traditional notions of the ownership of ideas are concerned.

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33 'Timothy R. McVeigh vs. The US Navy'; http://dont.stanford.edu/cases/mcveigh/mcveigh.htm, http://www.wiredstrategies.com/mcveigh.html, http://www.lambda.org/McVeigh.htm, http://www.hrc.org/mcveigh/)

34 Regarding the current status of the discussion between the United States and European Union about art. 25 of the Directive, on "adequate protection", when there is a transfer to a third country of personal data, see: 'EU considers draft US "safe harbor" principles' http://europa.eu.int/comm/dg15/en/media/dataprot/news/harbor.htm 'Joint Report on Data Protection Dialogue to the EU/US Summit, 21 June 1999' http://europa.eu.int/comm/dg15/en/media/dataprot/news/summit.htm

B1. Internet Convergence and Technical Control

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Introduction

By its very nature, the Internet medium is a convergence of three independent media. First it acts as a communication medium by its email facilities. Secondly it can be considered as computer services medium because it is a mega network of computer networks. And thirdly it acts as a broadcast service just like television, radio, and newspapers because of its capacity to carry news and information.

Each one of these three media presents problems that are unique. The value and utility of the Internet as a global medium then depends on what constituent medium one is in and the value of the content one gets out. This means that the perceptions, expectations and concerns are different in each constituent medium. However, the Internet carries all these things faster, better, more efficiently, cheaper, covers a lot more ground and it exhibits an unprecedented ease of access.

The Broadcast medium has the most problems with the general public because it is extremely difficult to please everyone in the diverse cultural, religious, linguistic, educational, and geographical global population. So our focus in this paper is going to be on the Internet as a communication medium and as a broadcast medium.

The Internet as a Communication Medium: Security and Control Mechanisms

As a communication medium, the Internet's fundamental problem is security of information in databases on the Internet servers and during transmission between servers. The Internet's ability to globally bring these databases to the reach of individual computers created a potential for any computer user to access any of these databases at will. The security of information does not only depend on the security of databases and communication media, it also depends on weaknesses in network software like Internet browsers, operating systems and every network application software stored on servers. Security controls to be considered, therefore, need to cover server security, server access, transmission protocols, and should involve both hardware and software.

Hardware System Security and Control

Hardware security controls are varied and involve access to hardware resources like memory and files, authentication routines for file access, password protection and the use of firewalls. These controls are divided into six areas, namely (1):

(i) Prevention to restrict access to information on the system by preventing access to a server on a network.
(ii) Protection to identify all security requirements of the system, evaluating them and coming up with the most suitable and most comprehensive techniques which are then deployed to protect the system.
(iii) Detection to provide early warning for early discovery of security bleaches that have by-passed both protection and prevention mechanisms.
(iv) Limitation intended to cut the losses suffered in case of failed security.
(v) Reaction to analyze the security and type of lapses, and the efforts to come up with remedies for a better security system based on the failures observed.
(vi) Recovery to recover what has been lost as efficiently as possible and update contingent recovery plans for the system in case of future failures.

Firewalls

Prevention and protection can be achieved through a *Firewall*. A firewall is a computer with two Ethernet cards connecting two networks, one network on one card being an internal and secure network and the other network on the second card being an un-secure external network. This computer then is set up to accept, deny or pass network traffic in both directions. Only authorized traffic is allowed to pass through these bottleneck security barriers. Firewalls have two benefits. First they allow the control and monitoring of network traffic by the network manager of the local network, and they simplify and localize the security problems of a local network on a single device, thus making security management easy.

Internet Transmission Security

Information security during transmission depends on a secure transmission protocol suite. Cryptography or secure writing, secures information in transition through the use of mathematical and logical functions which transform data into unintelligible forms, a process known as encryption, before transmission and back into intelligible forms, a process known as decryption, after the transmission.

In communication, specially modern digital communication, cryptography is a vital part in information security policy. It provides the needed lock and key to information handling on the Internet. The security provided by cryptography then enables individuals and businesses to protect their sensitive information during transition. Of late Internet commerce, or ecommerce, has been the fastest growing component of the Internet. This growth, and indeed the growth of the entire Internet, will depend on the security of sensitive information while on the Internet, hence on cryptography.

The Internet as a Computer Services Medium: Network and Software Security Controls

Beside the highly technical and network-based hardware security tools and controls discussed so far, there are also software tools displaying more local and individual controls of

the security of Internet information. With the Internet's reflection of the real world and its ability to transcend national barriers, comprehensive control tools are difficult, if not impossible, to globally apply due to the global mosaic of jurisdiction, culture, religion and political interests. So these tools with individual control initiatives are more appealing because they give each individual user personal control, and they are not so technical. Such tools include client and network operating systems, information management techniques, Internet server and browser software.

Network Operating System Software

A Network Operating System (NOS) is a set of core programs that together manage the resources of a computer system or network making the users aware of the multiplicity of machines in the network. The security of an operating system depends on the security of the kernel: the operating system part that is at the lowest level of functionality responsible for synchronization, interprocess communication, message passing and interrupt handling. And the security of information on a computer system or network highly depends on the operating system.

The security challenges presented by network operating systems include the need to be able to integrate and synchronize individual systems' security technologies such as authentication, access control, and cryptology.

Security Information Management

As operating systems uses increased and the number of different operating systems' technologies and the sizes and types of network increase, the security issues involved become more complex. Different security mechanisms and protocols are being developed every day, and keeping up with that stream of new techniques and methods is becoming increasingly very difficult especially in a network environment where each site may have customized and specialized techniques and protocols. So a management scheme is necessary to effectively synchronize these deferring mechanisms and protocols, and protect the system from unauthorized accesses by those taking advantages of weak points and loopholes resulting from the integration.

Server and browser software security

The problems of server and browser software security fall within the general problem area of software security. Like in general software, server and browser software errors result because of programming and data bugs which create holes and trapdoors in the software. Such Internet security trapdoors are not only limited to Internet browsers, but are also in Internet software especially server software like Fast Track from Netscape, Mail Server, Proxy Server, Enterprise Server, News Server and Catalog Server. Beside web browsers and server software, Internet security problems may also be found in Network technologies like ActiveX, a Microsoft Internet technology, and Java applets a Sun Microsystems technology.

The Internet as a Broadcast Medium: Security and Control Tools

Labeling and Rating Software

Internet software technology has developed to such an extent that easier and self-regulatory tools for personal control are already available and cheap. The crusade for voluntary self-regulating the Internet using rating and labeling software is led by industry giants , Microsoft and America Online (2). The rating and labeling standards are based on a PICS technology. PICS stands for "Platform for Internet Content Selection", a mechanism of labeling web pages according to their content based on a set of criteria developed by rating software firms. The labels attached to the web pages are then used by the filtering software when such a page is being accessed.

Rating of Internet content is very similar to rating of movies and videos and it follows a similar procedure resulting in an assigned label. There are a number of rating companies most of them supporting PICS technology and standards. The two most notable of these are:

(i) RASC

RASC or RSACi rating system is open and content-based providing blocking capabilities for entire sites, sections, or even individual pages or files within a site and through browsers. The RASC rating system has about twenty category restrictions grouped into four descriptors of Violence, Nudity, Sex, and Language, and four levels.

(ii) SafeSurf

SafeSurf is a rating, classification and filtering system using PICS technology and standards. SafeSurf's identification mark is the SS~~, called the wave, with close to 90 category restrictions in its rating repertoire grouped into ten SS-classification marks from SS~~000 to SS~~ 009 with each classification mark having close to nine levels.

A website is given a label either through self-rating, in which individuals place voluntary labels on their products or third-party rating in which a third party, like an independent labeling agency, is used to label the contents of the products.

Filtering/Blocking Software

Filtering software also known as blocking software rates documents and websites that have been rated and contain content designated on a filter's "black list". Filters are either client-based or server-based. Client-based filters are installed on a user computer and such filters are maintained by individuals and therefore less secure. Server-based filters on the other hand are installed centrally on a server and are maintained by a network administrator or an ISP. They are very effective throughout the entire local network and they offer better security because they are not easy to tamper with.

Even though filtering software, both browser-based and client-based, have recently become very popular, they still have serious problems and drawbacks like inaccuracies in labeling, restriction on unrated material, and just mere deliberate exclusion of certain websites by an individual or individuals. Inaccuracies have many sources. Some websites are blocked because they are near a file with some adult content; for example, if some materials are in the same directory as the file with adult content, the website with the file without adult content may be blocked. Sometimes websites are blocked because they contain words deemed to be distasteful. Such words sometimes are foreign words with completely different meanings but happen to have similar string names.

Conclusions

In this paper we have outlined and at times discussed tools in place to check on the activities on the Internet. The array of tools discussed so far is indicative of the nature of the debate concerning online content and what to do about it. While there are disagreements on what needs to be done about Internet content, there seems to be total agreement on some issues like security and privacy of that content. On those issues where there is agreement, the tools needed to be used are already in place although some need improvement as technology improves. However, on those other issues where there is no agreement, new and more varied tools need to be developed that give customers control of the Internet content so that those who feel that there is a need for censorship can use those tools like filters and blockers to censor this content to the degree they want, and those opposed to censorship and can live with the content can do so.

References

1. Joseph M. Kizza. *Civilizing the Internet: Global Concerns and Efforts Toward Regulation*, McFarland, Publishers, London, UK and Jefferson City, NC, 1998.
2. "Cyberspace attacks threaten national security, CIA chief says", CNN-Interactive, June 25, 1996. Also http://cnn.com/TECH/9606/25/comp.security/index.html

B2. Ethics and modes of governance of the Internet

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Introduction[35]

It is now well recognized that the global network environment, and in particular, the Internet, defies traditional regulatory theories and governance practices. The main reasons are linked to the disintegration of the concepts of territory and sectors. It has therefore been suggested to approach the regulation of the Internet from different points of view, technical, self-regulating and legal, for instance.[36]

This paper is a first exploration of those challenging issues, but does not pretend to be more than an attempt to assess what is really happening in the different domains of technical mechanisms, self-regulation and the law. We are not looking at what could be done, but at what is done through those different instruments, trying to enlighten which are the ethical issues which are covered by those instruments and which are not. It is a kind of a first inventory.

In this short paper, we tried to summarize the approach we presented during a recent "rolling workshop and round-table" during the fifth IFIP-TC9 Human Choice and Computers international conference held in Geneva, last August.[37] This work is the fruit of an on-going working programme within the Special Interest group (SIG9.2.2) "IFIP Framework for Ethics" of the International Federation for Information Processing. We shall analyze the ethical issues, as they appear first when considering the technical means of labeling and filtering, second in a sample of self-regulation systems, and finally in two specific legal questions.

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[35] This paper is a summary of three papers which were presented during the "rolling workshop" of the IFIP-TC9 HCC-5 conference (Geneva, August 1998). It has been presented, as a result of the IFIP-TC9 HCC-5 Conference at the UNESCO InfoEthics'98. It is reprinted here with the kind authorization of UNESCO. (See http://www.unesco.org/webworld/infoethics_2/index.htm)
The two first authors belong to the Cellule interfacultaire de Technology Assessment (CITA), the third to the Centre de Recherche Informatique et Droit (CRID), which are both sponsored by the Belgian Federal Office for Scientific, Technical and Cultural Affairs, in the Framework of its Programme "Interuniversity Poles of Attraction", Phase 4, Convention n° 31.

[36] Joel R. Reidenberg, Governing Networks and Rule-Making in Cyberspace, 45 *Emory Law Journal* 911, 1996, reprinted in *Borders in Cyberspace*, Brian Kahin and Charles Nesson, eds., MIT Press, 1997.

[37] Ethics and the Governance of the Internet, Rolling Workshop and Round-Table at the 5th Human Choice and Computers IFIP-TC9 International Conference, *Computers and Networks in the Age of Globalization,* Preceedings, S. Munari, G. Krarup and Leif Bloch Rasmussen, Eds, Geneva 25-28 August 1998, Printed by the University of Lausanne, pp. 307-387.

Ethical Issues and Questions with Filtering Software

Introduction

Filtering/control software is a technical means, located on a PC or a server or at the level of an Internet service provider, to restrict the distribution of certain kinds of material over the Internet.[38] In many cases, its goal is the protection of children against sex, violence, hate speech, etc. (see Table 1).

Labeling categories	Frequency in the sample
sex	7/10
violence	7/10
age	5/10
intolerance/hate speech	5/10
gambling	4/10
drugs	3/10
language	3/10
nudity	3/10
alcohol/tobacco	2/10
profanity	2/10
education content	2/10
gross depictions	1/10
satanic/cult	1/10
militant/extremist	1/10
quality	1/10
etc.	

Table 1 : Labeling categories and their frequency in a sample of 10 ratings[39]

This kind of software is promoted or supported by industry, Free Speech activists and some governments. Currently a lot of the available control software packages filter at the level of the entry point to an address on the basis only of their proprietary (and secret) list of URLs.[40]

But this could evolve thanks to PICS (Platform for Internet Content Selection). PICS is a set of technical standards which have been developed since summer 1995 by the MIT's World Wide Web Consortium. "The first and most important distinction that PICS introduced is a *separation between labeling and filtering*. A label describes the content of something.[41] A

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[38] 'Control' and 'filtering' are considered here as synonymous.

[39] Cyber Patrol (4.0) (CyberNOTlist), evaluWEB, Net Shepherd's Rating, SurfWatch (for kids), Adequate.com, IT-RA, RSACi, Safe For Kids, SafeSurf's Internet Rating Standard, Vancouver Webpages Rating Service (see M. d'Udekem-Gevers, What can be regulated on the Internet by control/filtering software ?, in: *Computers and Networks in the Age of Globalization,* doc.cit., pp. 315-334).

[40] An URL (Uniform resource Locator) identifies the location of a document.

[41] « PICS labels can be attached or detached » (and stored on a separate server called a 'label bureau'), Paul Resnick, 1997 Filtering Information on the Internet, in: *Scientific American* 03-97.

filter makes the content inaccessible to some audience."[42] In other words, thanks to PICS, "Consumers choose their selection software and their label sources (called rating service) independently." [43] "More generally, there are six roles that could be filled by different entities", as explained in table 2.[44]

1. 'Set labeling vocabulary and criteria for assigning labels'
2. 'Assign labels' (= rate or classify)
3. 'Distribute labels'
4. 'Write filtering software'
5. 'Set filtering criteria' (= customize)
6. 'Install/run filtering software'

Table 2: The 6 roles implied by filtering software (according to Resnick 1998)[45]

Moreover, PICS standards facilitate *"self rating* (enable content providers to voluntarily label the content they create and distribute) *and third party rating* (enable multiple, independent labeling services to associate additional labels with content created and distributed by others. Services may devise their own labeling systems, and the same content may receive different labels from different services."[46]

PICS would become more and more important. Control software such as Cyber Patrol does not hesitate to become currently PICS compliant.[47] PICS approach, which separates clearly the different roles involved in filtering, helps to analyze issues and allows solutions which are interesting from an ethical point of view.

Ethical issues with filtering software will be discussed here from the breakdown of table 2. Let us first remark that to 'set labeling vocabulary and criteria for assigning labels' is not value-neutral and that to 'assign labels' and to 'set filtering criteria' imply moral judgements. Any ethical approach has thus to focus on these three roles.

Outside PICS

Outside PICS, it happens as a rule that several roles (particularly to 'set criteria for assigning labels' or for classifying, to 'assign labels', to 'distribute labels' and to 'write filtering software') are filled in the framework of one firm or even by one sole commercial entity.[48]

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[42] Paul Resnick last revised 26-01-1998, PICS, Censorship & Intellectual Freedom FAQ, http://www.w3.org/PICS/PICS-FAQ-980126.html

[43] Resnick Paul and Miller James, 1996, PICS: Internet Access Controls without Censorship, in: *Communications of the ACM,* 39 (10), October 1996, p. 88.

[44] P. Resnick last revised 26 01 1998, PICS, Censorship & Intellectual Freedom FAQ.

[45] See http://www.w3.org/PICS/PICS-FAQ-980126.html

[46] See http://www.w3.org/PICS/principles.html

[47] According to several comparative reviews, Cyber Patrol is the best among the tested packages. (see Munro C., 1997, Internet Filtering Utilities, in: *PC Magazine*, April 8 1997, pp. 235-240.;Parental Control Software at a Glance, October 97 issue of *FamilyPC* http://www.zdnet.com/familypc/9709/noway/table.html ; Meeks Ch., 8 programs to porn-proof the Net, 4/3/96; updated 5/28/97 http://www.cnet.com/Contenu/Reviews/Compare/Safesurf)

[48] The role of 'assigning labels' is similar to the one of making a list of URLs to block.

Ethical issues are obvious with this kind of software: *users are linked to the subjective value judgements of this firm* ! Even to 'set filtering criteria' can be reduced by the firm to a nearly virtual role: the only choice available can be, for example, between 'filtered access' or 'not filtered access'.

Within PICS

Within PICS, as explained above, the six roles can be filled by different entities. This can obviously improve the situation from an ethical point of view but cannot delete any issue.

We suggest here a set of questions to be raised and which, of course, remain valid outside PICS.

Set Labeling Vocabulary and Criteria for Assigning Labels

To 'set labeling vocabulary and criteria for assigning labels' is a crucial role. First it influences automatically other steps of the filtering process ('assigning labels' and 'setting filtering criteria'). But moreover, as pointed out by CPSR (1997), "in general, the *use of a filtering product involves an implicit acceptance of the criteria used to generate the ratings involved.*"[49]

- Who is in charge of this role ? Is the identity of the person or the body responsible for this role clearly given in the documentation about the filtering software ? Would it be justified that a government fills this role ?
- Are the rating vocabulary and criteria clearly defined so as to allow the user (parents, ...) to judge if they are consistent with his/her own values ? Are they rich enough to allow a real choice at the level of the rating and at the level of the customization ?

Assign Labels

- Who is in charge of the very sensitive role of assigning labels ? Is the identity of the person or the body responsible for this role clearly given in the documentation about the filtering software ?
- Which of the two approaches (self-rating and third party rating) is the best ?
- When a third party rating service is involved, the next questions are to be raised : Who is effectively represented by this third party ? Is this party representative, for example, of a values-oriented organization or of a given population or culture? How are the ratings attributed?
- With self rating, the questions are : How to oblige or, at least, to incite people to self rate ? And on the basis of which principle ? How to solve the problem of mislabeled pages, and particularly of deliberately mislabeled pages ? As suggested by Cranor & Resnick, "The Internet community will need to co-operate in the creation of either vouching services, which vouch for authors who are honest in their self-labeling, or blacklisting services which keep track of authors whose labels are not reliable."[50]

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[49] CPSR 1997, Filtering FAQ, Version 1.1, 12/25/97, written by Hochheiser H., http://quark.cprs.org/~harryh/faq.html

[50] Cranor Lorrie F. & Resnick Paul, Technology Inventory, 12 March 1998, http://www.research.att.com/~lorrie/pubs/tech4kids/t4k.html

- If people assign labels and if labeling is not compulsory all over the world, it is obvious that *many sites will stay unlabeled*. The question is then : What to do with unlabeled sites ? If the software allow unrated sites, then the global control will not be efficient but if it does not, then innocuous and very interesting sites will be not accessible (see the discussion of Weinberg on this subject).[51] And thus in this case, "blocking software could end up blocking access to a significant amount of the individual, idiosyncratic speech that makes the Internet a unique medium of mass communication. Filtering software, touted as a speech protective technology, may instead contribute to the flattening of speech on the Internet."[52]
- Can the person or body in charge of the rating use rating criteria in accordance with his/her own value judgements ?
- Are the ratings numerous and various enough to cope with the diversity of cultures and of opinions at the level of the customization ?

Set Filtering Criteria

- Which kind of customization ? In fact there is a dilemma : the more choices you give to the final users the more difficult it is to set ! A solution in the future could be, as suggested by Cranor & Resnick, "to allow users to download preconfigured setting from organizations they trust. Child advocacy organizations as well as various religious, political, and educational organizations might recommend configurations to parents. Parents could download these settings with a simple click of the mouse and have them installed into their child's software."[53]
- Who is in charge of this role? Initially this role was dedicated to parents to control their children. But filtering software are used also by libraries (in the USA), for instance to control adults, by schools and by firms. Is it ethically justified to give such a power of control to this kind of entity ? "A government could try to impose filtering criteria in several ways, including government-operated proxy servers (a national intranet), mandatory filtering by service providers or public institutions, ..."[54] Would it be ethically justified ?
- Can the person or body in charge of the customization find both criteria and a rating in accordance with his/her own value judgements ?

Governance and Self-regulation

Pierre Van Ommeslaghe defines self-regulation as "a legal technique according to which the legal rules or the rules of conduct are created by the persons to whom they are intended to be applied, - either those persons do it by themselves or they are represented to do it", but he does explicitly exclude some 'codes of conduct' which are enacted by international organizations, since the persons to which the code will be applied are not participating in the process.[55] In a way which is not very different, Pierre Trudel defined it as "the recourse to

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[51] Weinberg J. 1997, Rating the Net, http://www.msen.com/~weinberg/rating.html

[52] ibid.

[53] Cranor L. F. & Resnick P., Technology Inventory, art. cit.

[54] See http://www.w3.org/PICS/PICS-FAQ-980126.html

[55] Pierre Van Ommeslaghe, L'autorégulation. Rapport de synthèse, in: *L'autorégulation*, Actes du Colloque organisé par l'A.D.Br. et le Centre de droit privé de l'Université libre de Bruxelles le 16 décembre 1992, Bruxelles, Ed. Buylant, 1995, pp. 233-274.

voluntary norms which are developed and accepted by those who participate in a determined (specific) activity."[56]

Our *Corpus* - Different Styles

We have gathered some 15 documents - codes or rules - which may be relatively well recognized as self-regulatory instruments of governance for the Internet to which we joined the 30 IFIP Codes that we had analyzed before.[57] Our collection shows the extreme diversity of the material which comes under the label 'self-regulation'. We tried to classify the documents according to the Van Ommeslaghe's classification but we were obliged to consider it as inapplicable.[58] The present list is more classified on themes or names.

The 'Ten Commandments' and the Netiquette rules

- The Ten Commandments of Computer Ethics, by the Computer Ethics Institute (CEI), Washington, D.C.; published in many places.[59]
- Suggestion of Netiquette - Core Rules of Netiquette, Virginia Shea.[60]
- The Net: User Guidelines and Netiquette, by Arlene H. Rinaldi.[61]
- Charter and Guidelines for news.admin.net-abuse.announce, Source: Newsgroups: news.admin.net-abuse.announce, 11 April 1995.
- One planet, One Net: Principles for the Internet Era, CPSR (Computer Professionals for Social Responsibility): still under discussion.[62] (not analyzed)

Charters

- Cyberspace and the American Dream: A Magna Carta for the Knowledge Age, 1994, published by the Progress and Freedom Foundation (PFF).[63]
- Online Magna Charta, Charta of Freedom for Information and Communication, 'The Wartburg Charta', 1997.[64]
- The Intergovernmental Information Technology Leadership Consortium (Council for Excellence in Government) - Draft - Consortium Charter, 1997.[65]

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[56] Pierre Trudel, Les effets juridiques de l'autoréglementation, in: *Revue de Droit de l'Université de Sherbrooke*, 1989, vol. 19, nr. 2, p. 251, quoted by Olivier Hance, L'évolution de l'auto-réglementation dans les réseaux informatiques: Eléments pour la construction d'un modèle théorique, in: *Journal de Réflexion sur l'Informatique*, Namur, Août 1994, Nr. 31, pp. 25-31.

[57] J. Berleur and Marie d'Udekem-Gevers, Codes of Ethics Within IFIP and Other Computer Societies, in: *Ethics of Computing: Codes, Spaces for Discussion and Law*, J. Berleur & Kl. Brunnstein, Eds., Chapman & Hall, 1996, pp. 3-41.

[58] Pierre Van Ommeslaghe, L'autorégulation. Rapport de synthèse, art. cit. pp. 251 ff.

[59] See for instance: http://www.fau.edu/rinaldi.net/index.htm (July 1998)

[60] Virginia Shea, *Netiquette*, San Francisco: Albion Books, 1994 (See: *EDUCOM Review*, Vol. 29, Nr. 5, September/October 1994, pp. 58-62). See also: http://www.educom.edu/web/pubs/review/reviewArticles/29558.html (July 1998)

[61] http://www.fau.edu/rinaldi.net/index.htm (July 1998)

[62] In: *CPSR Newsletter*, Volume 15, N°4, Fall 1997.
See also: http://www.cpsr.org/dox/program/nii/onenet.html (July 1998)

[63] http://www.pff.org/position.html (July 1998)

[64] http://www.lipsia.de/charta/ (July 1998)

[65] http://www.excelgov.org/techcon/charter.htm (July 1998)

Codes of Ethics and Conduct

- Codes (Standards/Guidelines) of Ethics (Practice/Conduct) of IFIP Computer Societies.[66]

ISPs', SPA's Codes, 'Virtual communities' rules and others
Codes of ISPs' (Internet Service Providers) Associations

- Internet Service Providers Association (ISPA-UK), Code of Practice, 1996.[67]
- Internet Service Providers Association (ISPA-Belgium), Code of Conduct, 1998.[68]
- Canadian Association of Internet Providers (CAIP), 1997.[69]
- La Charte française de l'Internet, Proposition de Charte de l'Internet, Règles et usages des acteurs de l'Internet en France, 1997.[70]
- La Charte de l'Internet proposée par la France à l'OCDE, Proposition française présentée à l'OCDE pour une Charte de coopération internationale sur Internet, 23 octobre 1996.[71] (not analyzed)

'Virtual Communities'

- JANET Acceptable Use Policy, 1995.[72]
- GeoCities Members Guidelines, and particularly GeoCities Page Content Guidelines and Member Terms of Service, 1998.[73]

Others

- US SPA's (Software Publishers Association) Guidelines for Copyright Protection (previously called 'ISP Code of Conduct'), 1997.[74]
- International Chamber of Commerce, Guidelines for ethical advertising on the Internet, 1998.[75]

Most of them are short, maximum 2 A4 pages; but some are shorter than others; 10 commandments, 10 rules of Netiquette, 7 principles for the Internet era. Symbolic figures! And sometimes one stresses that it must be a 'portable' regulation: CPSR doesn't hesitate to launch its idea 'One planet, one net' on a book marker! It seems that that the shortness is a characteristic of such kind of documents, except when they are 'codes of practice'. But this shortness has, at least, to be combined with the content density!

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[66] J. Berleur and Marie d'Udekem-Gevers, Codes of Ethics Within IFIP and Other Computer Societies, in: *Ethics of Computing: Codes, Spaces for Discussion and Law*, J. Berleur & Kl. Brunnstein, Eds., op. cit.
[67] http://www.ispa.org.uk/codenew.html (July 1998)
[68] http://www.ispa.be (July 1998)
[69] http://www.caip.ca/caipcode.htm (July 1998)
[70] http://www.planete.net/code-internet/ (July 1998) (Translation "Proposition for an Internet charter, Rules and Courtesies of the Actors of the Internet in France, 1997", done by Dr. Victoria Steinberg, Foreign Languages Department, University of Tennessee, Chattanooga, USA).
[71] http://www.telecom.gouv.fr/francais/activ/techno/charteint.htm (July 1998)
[72] http://www.ja.net/documents/use.html (July 1998)
[73] http://www.geocities.com/members/guidelines/ (July 1998)
[74] http://www.eff.org/pub/Legal/Cases/SPA_cases/spa_revised_isp.code (July 1998)
[75] http://www.iccwbo.org/Commissions/Marketing/Internet_Guidelines.html (July 1998)

A tentative analysis

The 'Ten Commandments' and the Netiquette rules

The first series of texts is a mix of prevention against what is called computer crime (for the *Ten Commandments*) and of kindness and fairness (for the *Netiquette* rules). Many of the rules governing Newsgroups, for instance the 'Charter for news.admin.net-abuse.announce', are worth being mentioned since they make explicit what is considered as "net-abuse", and which is spelled out, at least partially, in terms similar to those used in computer crime laws.[76]

The categories of computer crime which were adopted by the Council of Europe in 1990 may fix our attention and cover the majority of the topics here suggested.[77] The Council of Europe recommended to have a *Minimum List,* which includes computer related fraud, computer related forgery, damage to computer data or programmes, computer sabotage, unauthorized access, unauthorized interception, unauthorized reproduction of a protected computer programme, unauthorized reproduction of a topography, and an *Optional List* covering alteration of computer data or programmes, computer espionage, unauthorized use of a computer, and unauthorized use of a protected computer programme.

The Charters

'Cyberspace and the American Dream: A Magna Carta for the Knowledge Age' is a manifesto of the Progress and Freedom Foundation (PFF), in the spirit of the third wave of the Tofflers.[78] If we mention this 'Carta', it is only to notice the hot issues as they are seen by certain zealous propagandists: property rights necessary for the market, infrastructure ownership, dynamic competition on the Cyberspace marketplace and Schumpeter's 'creative destruction' with its winners and losers, customized and actionable knowledge for the Knowledge Age, hackers "vital for economic growth and trade leadership", ...

The 'Online Magna Charta, Charta of Freedom for Information and Communication, The Wartburg Charta' (1997), is no more than the previous one, a 'Charter'. It is a protesting reaction of Netizens when the US CompuServe provider blocked the access to 200 discussion fora under judiciary inquiry, in November 1995. It is a claim to the right to free speech and the freedom of opinion, information and communication, the right to 'a virtual home'.

The last 'charter' here mentioned is the 'Intergovernmental Information Technology Leadership Consortium Charter' which again does not fit into that category and is more a self-satisfactory statement promoting its own quality in the delivery of government services, in the economic growth, and in the citizen participation at all levels of the process of governance.

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[76] I was told, in April 1998, by the former moderator, that this group does not exist anymore.

[77] Council of Europe, Computer-Related Crime, Recommendation N° R (89) 9 on computer-related crime and final report of the European Committee on Crime Problems, Strasbourg, 1990. See also : Jay Bloombecker, Simplifying the US State and Federal Computer Crime Law Maze, in: *Transnational Data and Communications Report*, September/October 1994, pp. 6-8.

[78] Alvin and Heidi Toffler, *Creating a new civilization. The politics of the third wave*, Foreword by Newt Gingrich, Turner Publishing, Inc., Atlanta, 1995.

Codes of Ethics and Conduct

Codes of Ethics and/or Conduct of many computer societies, such as in IFIP, are not specific to the Internet, but their content is rather frequent in such a kind of self-regulation and so worth noticing.

The 'fields of reference' which have been considered by at least one third of the 30 codes of the IFIP national member societies which we have examined are as follows :

- Respect for the interests or rights of the people involved, for the prestige of the profession, for the interests or rights of the public, for the welfare, health of the public, and for the quality of life;
- Conscientiousness and honesty, acceptance of responsibility and integrity, respect for requirements or contracts or agreements, conscientious work, professional development and training , competence, effectiveness and work quality;
- Confidentiality, privacy in general and respect for property rights;
- Flow of information to involved parties, and information to the public;
- Respect for the code, for the law, and for IT and professional standards.

ISPs', SPA's Codes, 'Virtual communities' rules and others

Our collection of self-regulatory documents still include 4 Codes of Internet service providers associations, 2 'virtual communities' rules, 1 Software publishers association Guidelines for Copyright protection, and 1 International Chamber of Commerce Guidelines for ethical advertising on the Internet.

Codes of ISPs' Associations

The 'French Proposal of an Internet Charter' must be included in the category of ISPs' codes, more than in the charters' category. On the opposite, the 'US SPA's Guidelines for Copyright protection', although it was called earlier 'ISP Code of conduct', will be mentioned in our last category 'Others'. The French proposal - still a draft - is the most complete one, and also the longest: it is more than 12 pages long whilst the others are generally 2 pages. It seems also that in Europe, at least among the 10 EuroISPA members, there are only 2 having presently a code.[79] So, our collection contains, first, 4 codes of ISPs' Association: two Europeans (UK and Belgium), one Canadian, and the French draft.

The comparison regarding the people concerned and the country does not reveal great mysteries: the members of the association and the country where it is located! Let us just mention the CAIP's Code which stipulates that "it will cooperate with international organizations and law enforcement authorities ..." Procedures for enforcement are not very strong, and the commitment for reporting is weak.

As the topics are concerned, at the risk to be regarded as nationalist, let us take the most recent code, from Belgium. Except the French draft, it is the most complete and it includes most of the items of the others. It includes general commercial clauses insisting on legality and sincerity (services, products or advertising material), honesty (with clients; inform them of this existing code), personal data protection, publicity, and right information on prices.

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[79] http://www.euroispa.org/coc.html (July 1998) A recent update (August 1999) brought the number of codes to 6, for 11 members.

These commercial clauses are spelled out in similar terms in the UK and Canadian documents. There are also special clauses on crime in the Belgian code: pay special attention for fighting against 'illegal or dubious material', but no capacity for controlling everything; they will assist public authorities, have special email address for complaints, and inform hotline about every illegal or harmful transaction: sex, pornography, paedophilia, racism, xenophobia, genocide denial, provocation or encouragement to criminal act, criminal association, gambling and lottery, drugs ("list is not closed"), ...

What the draft French Internet Charter seems to bring new in the scope is the creation of what is called an 'Internet Council', "an independent and unique body for self-regulation and mediation." Its roles will include information and advice to actors and users, process of complaints, and participation in the international cooperation. The role is a bit larger than the ISPs associations. The Canadian association of Internet providers code resembles to the others, but one specific clause is worth mentioning: "CAIP members are committed to *public education* about Internet issues and technology (f.i. how to assign liability for content and network abuse, and help all Canadians understand the options available to all stakeholders).

'Virtual Communities'

JANET is the well known UK education and research community network. We do not have here a real document of 'self-regulation', but an 'acceptable use policy', as it is most of the time called in Anglo-Saxon world.[80] But it contains rules which are typical not only of such academic community, but of many others: privacy protection, no harmful material, no computer crime (unauthorized access, no defaming, no infringement of copyright, corrupting or destroying other users' data, disrupting the work of others, other misuse of JANET or networked resources, such as the introduction of 'viruses', etc.), and also some rules of usual Netiquette such as: "Do not use JANET for deliberate activities such as wasting staff effort or networked resources, (...) in a way that denies service to others, ...

JANET acceptable use policy is a very temperate and sober community code when compared to the GeoCities Guidelines. GeoCities could be classified among the ISP, but it looks also like a big community - 'more than 2 million GeoCitizens' from all the world, located in some 40 'Neighborhoods' - common interest communities.

Regarding the illegal or harmful material, the rules do not differ very much from what we have read until now. "Refrain from using free Personal Home Page or GeoCities Chat and Forum session for: material containing nudity or pornographic material; material grossly offensive to the online community, including blatant expressions of bigotry, prejudice, racism, hatred, or profanity; material that exploits children under 18 years of age; restricted or password-only access pages, or hidden pages or images (...)."

There are other interesting clauses. "Refrain from: instructional information about illegal activities, physical harm or injury against any group or individual, or any act of cruelty to animals; defaming any person or group; for commercial purposes (...); using page (or directory) as storage for remote loading or as a door or signpost to another home page."

The list includes a clause which is nearly the copy of one from the US SPA Guidelines for Copyright Protection, as we shall see: "refrain from using your home page for acts of

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[80] See John W. Corliss, Policies of Acceptable Use at Educational and Research Institutions, in: *Ethics of Computing: Codes, Spaces for Discussion and Law*, J. Berleur & Kl. Brunnstein, Eds., op. cit. pp. 61-70.

copyright, trademark, patent, trade secret or other intellectual property infringement, including but not limited to offering pirated computer programs or links to such programs, information used to circumvent manufacturer-installed copy-protect devices, including serial or registration numbers for software programs, or any type of cracker utilities (this also includes files which are solely intended for game emulation)."

Then it goes on with: "Refrain from: violating Internet standards for the purpose of promoting your home page; hyperlinking to content not allowed in GeoCities; gathering personally identifiable information for commercial or unlawful purposes; posting or disclosing any personally identifiable information belonging to children. [Kids: For your safety, do not put your real name, address, phone number, e-mail or other information like that on your webpage or give it to strangers.]"

This rather long list is completed by an explicit sentence: "GeoCities does not actively monitor the content of Personal Home Pages but will investigate complaints of violation of these guidelines.

Others

We have finally collected two specific Guidelines, because they are 'sectoral' and linked to the Internet.

The first one, the Guidelines of the US SPA are in a way curious, because they have been developed by SPA for server operators who do not seem "to participate in the activity", to quote the definition of self-regulation by Pierre Trudel: the real actors on whom self-regulation is here imposed are the subscribers. The question was very controversial: SPA suited small ISPs, but the case was dropped.[81] Amusingly, when writing this paper, we found a 'Hotnews' 'Dutch ISPs Refuse to Squeal on Software Pirates': "Dutch Internet service providers World Access/Planet Internet, XS4All and Euronet have said they will not check their systems for advertisements by software pirates, even though the Business Software Alliance (BSA), an organization of software distributors, holds the providers responsible for the majority of software piracy over the Internet in the Netherlands."[82] The subject is surely hot and on the agenda of many organizations, as well as the general problem of intellectual property right.[83]

The Guidelines of ICC on Advertising and Marketing on the Internet are surely worth seeing, since we are here also in a very sensitive domain. The privacy protectors and the anti-spamming leagues will surely react to such guidelines. Problems which are here treated are: legality, honesty, social responsibility, clear information to the users, use of personal data (with a right to opt-out), right to access his/her own data, no unsolicited commercial message (when indicated), special clauses for advertising to children, and respect for potential audiences: pornography, violence, racism, sexism, ...

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[81] Electronic Frontier Foundation (EFF), Software Publishers Association vs. ISPs - suits dropped, 'Code of Conduct' critiqued [Dec. 6, 1996], http://www.eff.org/pub/Censorship/HTML/hot.html#cda (July 1998)

[82] Dutch ISPs Refuse to Squeal on Software Pirates, http://www.best.be/hotnews.CFM?DPPRESS=743 (July 10, 1998).

[83] Robin Mansell and W. Edward Steinmueller, Intellectual Property Rights: Competing Interests on the Internet, in *Communications and Stragegies*, IDATE-Montpellier, n° 30, 2nd Quarter 1998, pp. 173-197.

Self-Regulation : First Results

What could be considered in some way as a tedious analysis reveals repetitions and a rather convergent final result. Some 'issues', if not 'categories', emerge:

- fairness and kindness: Netiquette, ISPs, ICC
- respect, honesty, competence, sincerity, right information, ...: Codes, ISPs, ICC
- privacy (and deriving rights such as right to know about his/her own data): nearly all
- computer crime: Ten Commandments, Net-abuse administration, Virtual communities, Janet, ICC
- intellectual property right, copyright, trademark, patent, ...: GeoCities, PFF Carta, US SPA
- free speech, right to information and communication: Wartburg, French Charta
- illegal, dubious, harmful material: ISPs, GeoCities, ICC
- etc.

We must say our disappointment about the other features of our analysis: people involved and concerned, places where self-regulation is applicable, rules for enforcement. It looks like the reign of vagueness.

About enforcement and procedures, without doubt, we are in a relatively recent situation: the texts we have examined do not go back further than 1994-1995. Moreover, as most often, organizations do not like to report on complaints which could reveal a weakness in their security system, for instance. This means that we shall have difficulties to evaluate the functioning of the procedures, when they exist. We can just regret that some organizations explicitly state that they cannot commit themselves in controlling what they have on their servers.

This means that, if the topics and issues appear relatively clearly, the main concern, in terms of governance, reveals that we have to make further decisive progress. We could also add that the real problem with such codes is not that they exist, but that in some pages they try to cover what the law needs many well crafted numerous articles for!

The Internet : The Role of the law. Two new legal issues

The problem of the regulation of the Internet could be solved in different ways. The law is one of them. But, because of the particular nature of this new medium, and especially the fact that it allows to exercise a lot of different fundamental freedoms (like the freedom of expression, the freedom of information, etc.) important ethical choices have to be made in order to conciliate all interests.

To give a better idea of these ethical choices, we will analyze the regulation chosen in two different topics: the protection of privacy and the protection of copyrights.

The Protection of Privacy

Different choices have been made in USA and in the European Union. These choices could be explained in an economical point of view. On the one hand, we have the United States of America whose economical tendency is liberalism, which means that the market

should be let free to solve as much issues as possible. On the other, the European Union which has chosen to regulate.

The Choice Made in the United States

In July 1997 the Clinton's Administration published a paper entitled : "Framework for global electronic commerce" in which different principles were developed from which three are relevant for our purpose.[84]

First of all "the private sector should lead" and consequently, the government will encourage industry self-regulation and the private sector participation in the making of standards or collective agreements. Secondly, "Governments should avoid undue restrictions on electronic commerce". Thirdly, "where governmental involvement is needed, its aim should be to support predictable, minimalist, consistent and simple legal environment for commerce" which means that the Governments plans to set up only decentralized or contractual model of law rather than a legal environment base "on top-down regulation".

The choice of the federal administration was clearly in favour of self-regulation. But in 1998, a poll taken by *Business Week* revealed that a lot of citizens refused to go online because of privacy concerns. The efforts of the companies to set up adequate privacy protection seemed not to be convincing. It is why in July 1998, the Federal Trade Commission made the following declaration : "Unless industry can demonstrate that it has developed and implemented broad-based and effective self-regulatory programs by the end of the year, additional governmental authority would be appropriate and necessary."[85]

One month later, the Federal Trade Commission charged the company GeoCities, one of the most popular sites on the World Wide Web, of misrepresenting the purposes for which it was collecting personal identifying information from children and adults.[86] A few days later, the GeoCities' shares lost more than 20 percents. And that can be considered as a mirror of the growing awareness "that Internet privacy protection can have an enormous impact on a company's bottom line."[87]

The Choice Made in Europe

The legal policy in the European Union has clearly been a regulatory policy. A general directive was issued in 1995 and set up different rights such as the right of access or the right to object.[88]

The general directive speaks also about the self-regulation, and one article is really interesting to understand the place the self-regulation should take (mostly the Codes of Conduct). The article provides that: "The Member States and the Commission shall encourage the drawing up of codes of conduct intended to contribute to the proper implementation of the national provisions adopted by the Member States pursuant to this Directive, taking account

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84 http://www.ecommerce.gov/framewrk.htm

85 http://www.wired.com/news/news/politics/privacy/story/13895.html

86 http://www.ftc.gov/opa/1998/9808/geocitie.htm

87 Reuters 17/08/1998.

88 Directive 95/46/EC of the European Parliament and of the Council of 24th October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ No L 281, 23.11.1995, p.31 (hereinafter general directive). (Right of access: see article 12; right to object, see article 14)

of the specific features of the various sectors".[89] The Commission seemed to consider the Code of Conduct only as a supplement to the law, nothing more.

This article also creates the possibility for trade associations and other bodies representing other categories of controllers to submit the code they have drawn up to the opinion of the national authority. The Directive suggests that the Member States should make provision for this authority to ascertain whether the drafts submitted to it are in accordance with the national provisions adopted pursuant to the Directive.[90]

But at this point of the debate we have only compared the choice made in the United States and in the European Union. It would be interesting to join them face to face. The first feature of this confrontation is the article 25 of the European Directive, which provides that : "the member States shall provide that the transfer to a third country of personal data which are undergoing processing or are intended for processing after transfer may take place only if, without prejudice to compliance with the national provisions adopted pursuant to the other provisions of the directive, the third country in question ensures *an adequate level of protection*" the second paragraph of the article gives more details about the assessment of the level of protection saying that "particular considerations shall be given to the nature of the data, the purpose and duration of the proposed processing operation or operations, the country of origin and country final destination, the rules of law, both general and sectoral, in force in the third country in question and the professional rules and security measures which are complied with in that country" . At that moment the level of protection in the USA has been considered as inadequate. But the problem is that the Directive will have direct effect in October 1998. Therefore, US and EU officials are meeting to discuss ways of avoiding a potential impediment to electronic commerce trading between the two continents.

The problem is now: How to solve this conflict? Because both parties will stay on their positions. A solution could may be found in the article 26.2 of the European Directive which creates an exception where the controllers adduce adequate safeguards with respect for the protection of privacy specifying that such safeguards may in particular result from appropriate contractual clauses. So the solution could be the creation of standard contracts which would be used for each transborder data flows to third countries.

In 1997, the Commission issued a second Directive on privacy, particularly focused on the telecommunications.[91] This Directive gives several rights to the consumer with regards to the use of telecommunications, which can be made with a commercial purpose. For example, article 10 says that a subscriber must be provided, free of charges, with the possibility to stop automatic call forwarding by a third party to his or her terminal. These calling systems include the fax transmission, so doing; the Directive provides a solution to the problem of commercial harassment.

In conclusion, we can observe that the process used in the European Union is exactly the contrary to the one adopted in the USA. In a first step, the Clinton's Administration had given the priority to the self-regulation. But recently they have faced different abuses of the market due to the lack of regulation. They probably will come to the decision to write a law. But something remains surprising. It is the fact that the financial market has started to consider the

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89 Article 27 §1.

90 Article 27 2 al. 2.

91 Directive 97/66/EC of the European Parliament and of the Council of the 15 December 1997 concerning the processing of personal data and the protection of privacy in the telecommunications sector, OJ 1998 L24/1.

protection of Privacy as a criterion to evaluate a company carrying business in electronic commerce. Therefore it could be considered that a change of the way to regulate privacy in the USA would be the result of an economical choice more than of an ethical one.

On the opposite, the European union started directly with a directive whose purpose was, among others, to ensure a high level of protection to the right recognized in article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms.[92] The choice of the Commission was to enforce that ethical value with a Directive but with a possibility to use self-regulation as a complement. It could be asked which of those two process is the most efficient. The answer could be none of them because they both try to stay between the over-regulation and the legal emptiness knowing that each of them is really close to the farthest utmost point.

The Protection of Copyrights, the Competition between Law and Technology

Opposite to the privacy domain, the field of copyright has been regulated strongly in the USA and in the European Union. The ethical choice has been done in favour of a real protection of the rightholders. But, new questions arise now with the coming out of technical systems of protection. These systems are capable of managing the access to the works.

Furthermore, a proposal for Directive on copyright and related rights in the information society would require Member States "to provide adequate legal protection against any activities, including the manufacture or distribution of devices or the performance of services, which would enable or facilitate the circumvention without authority of effective technological measures designed to protect copyrights and related rights."[93]

This position of the Commission is the starting point of different considerations. First of all, the danger is that such an Electronic Copyright Management System (ECMS) could manage the access to works, which are not protected anymore by copyrights. Which might, according to different authors, "result in appropriation of public domain, which has to remain freely accessible to the general public."[94]

Furthermore, the technology seems to offer a better protection than the copyrights themselves, and one could ask if that technology will not cause the "death of the copyrights" in the virtual world? This remark could be found excessive but something is certain, the spirit of the protection by the copyright is changing. Before the protection was an *a posteriori* one the copyright was invoked after the infringement. Now, to prevent the ECMS to violate the right of information of the public, it becomes necessary to decide *a priori* which works are protected and which are not.

It is interesting to note that the emergence of the new information technologies could be regulated by three different instruments : first of all the law which has the advantage to be effective and possibly enforced by a court order. But, the law has also weaknesses such as its

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92 Directive 95/46/EC of the European Parliament and of the Council of 24th October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ No L 281, 23.11.1995, p.31, whereas (10).

93 http://europa.eu.int/comm/dg15/en/intprop/intprop/1100.htm (comments on article 6).

94 Severine Dusollier, "Legal aspects of Electronic Rights Management Systems (ERMS)", p.6. (to be published)

general character which does not help when practical details have to be solved. The second way to regulate is the self-regulation. This way is generally chosen in sectors where the connections between the actors are very strong like for example in the financial world. The self-regulation has an effectiveness when it is the commercial advantage of the actors to comply with. If it is not, it is really difficult to imagine that such a regulation could have any possibility to be enforced.

A third and new way to regulate is the technology which can integrate the requirements of the law and enforce them by technological ways. The danger resides in the following question: "Who is entitled to write the standards governing the machine?" Because if only an oligarchy decides of the rules to be implemented by the machine they give to the law their own interpretation and sometimes bypass completely the philosophy of the rule. If, like some authors said "the answer to the machine is the machine", the user has to remain the master and may not become the slave ...

Conclusion

We may be short. Two main conclusions are obvious and could be considered at least as a provisional agreement and allow us to focus on newer issues.

First, there is a general agreement on the ethical issues as they are covered either by the technical means, or by self-regulation, and partially at least by the law. Privacy (and deriving rights such as right to know about his/her own data); computer crime; intellectual property right, copyright, trademark, patent; free speech, right to information and communication; fight against hatred speech, racism, and against sectarianism; pornographic, illegal, dubious or harmful material; etc. All these issues are rather frequently mentioned.

Second, within the ways those issues are solved, or at least approached, there are also ethical choices to be clarified. Who is setting the labeling vocabulary and the criteria for assigning labels, who is rating the web sites ? Who is establishing the filtering criteria ? Those questions that we have raised about the technical means show us that there are social and ethical choices. As we have seen there are also ethical and social choices in the ways privacy may, for instance, be protected. Or it may be that a technical choice deregulates the legal means - what is also an ethical and social choice!

Ethics is not out of scope in the governance of the Internet, and plays its role. Therefore, as it was suggested during the recent IFIP-TC9 international conference on Human Choice and computers, we must "care about the net" instead of fearing it, play a role in a more face-to-face way (E. Lévinas); in other words we must devote ourselves to "netmaking" more than to "networking" and we have to *create* an ethical community. Others were suggesting to strive to develop cross-cultural values to the service of great causes such as reducing violence and promoting peace. Or, to develop principles of governance which include social responsibility. Social dialogue, cultural dialogue, social responsibility are not only important words: they must be in the forefront of our action to create human networks in the age of globalization.

APPENDIX C

CPSR DOCUMENT - "One Planet, One Net: Principles for the Internet Era" (reprinted below)

http://www.cpsr.org/program/nii/onenet.html : August 1998 (Still the same in September 1999)

One Planet, One Net: Principles for the Internet Era

The emergence of the Internet presents enormous opportunities and challenges to humanity. If we work to preserve its openness and diversity, we can ensure that the Net will be used to change the human condition for the better, and can prevent or mitigate its less desirable consequences.

The Internet is more than wires, computers, software, modems, routers, standards, and the applications that use them. It even encompasses more than text and pictures, and the audio and video that are rapidly joining those media. The Net is also the collective knowledge and experience of countless communities, each with its own modes of interaction, languages of discourse, and forms of cultural expression.

Certain principles must be understood and respected as we consider the more detailed daily questions that arise in the administration or governance of the Net. We believe that among these principles are the following:

1. The Net links us all together.
2. The Net must be open and available to all.
3. Net users have the right to communicate.
4. Net users have the right to privacy.
5. People are the Net's stewards, not its owners.
6. Administration of the Net should be open and inclusive.
7. The Net should reflect human diversity, not homogenize it.

The continuing evolution of the Internet presents both opportunities and challenges. We must work to counter the political, economic, social, and technical forces that work against these principles and threaten the promise of open communication on the Internet. Failure to do so may lead to a future in which the Internet is homogenized, commercialized, and regulated to the extent that it fails to meet its fundamental mission - to serve as a medium for maximizing human potential through communication.

1. The Net links us all together

The nature of people and their use of networking technology provides a strong natural drive towards universal interconnection. Because the flow of information on the Net transcends national boundaries, any restrictions within a single country may act to limit the freedom of those in other countries as well.

The true value of the Internet is found in people, not in technology. Since each new user increases the value of the Net for all, the potential of the Net will only be reached when all who desire can openly and freely use the Net.

2. The Net must be open and available to all

The Net should be available to all who wish to use it, regardless of economic, social, political, linguistic, or cultural differences or abilities. We must work to ensure that all people have the access to the technology, education, and support necessary for constructive, active participation. People in all walks of life should have as much right to send and receive information as do the affluent and powerful.

3. Net users have the right to communicate

Every use of the Net is inherently an exercise of freedom of speech, to be restricted only at great peril to human liberty. The right to communicate includes the right to participate in communication through interacting, organizing, petitioning, mobilizing, assembling, collaborating, buying and selling, sharing, and publishing.

The Net offers great promise as a means of increasing global commerce and collaboration among businesses, but restrictions on information exchange would eviscerate that promise.

4. Net users have the right to privacy

Without assurances of appropriate privacy, users of the Net will not communicate and participate in a meaningful manner.

The right to privacy includes at least three forms:

- Individual Network users should control the collection, use, and dissemination of personal data about themselves, including financial and demographic information.
- Network users should be free to use any available technical measures to help ensure the privacy of all aspects of their communications.
- Individuals have the right to control who they communicate with, and how they conduct that communication. The privacy implied by the decision to not communicate must be respected.

5. People are the Net's stewards, not its owners

Those who want to reap the benefits of the shared global Net are obliged to respect the rights of others who may wish to use the Net in different ways. We must work to preserve the free and open nature of the current Internet as a fragile resource that must be enriched and passed on to our children.

Individual pieces of the Net, such as wires, routers, and servers, have owners whose economic rights and interests must be respected. However, just as the ecosystem in which we live cannot be owned, the Net itself is not owned by anyone.

6. Administration of the Net should be open and inclusive

The Net should be administered in an open, inclusive, and democratic manner for the betterment of humanity. The needs of all who are affected by the Internet - including current users, future users, and those who are unable to or choose not to be users - must be considered when making technical, social, political, and economic decisions regarding the operations of the Internet.

Although administration of the Net should aim to enhance its efficiency, availability, and security, it should not do so at the cost of discouraging use of the Net. Administration should facilitate and encourage greater use of the Net for communication, rather than inhibit it in any way.

7. The Net should reflect human diversity, not homogenize it

The Net has the potential to be as varied and multi-cultural as life itself. It can facilitate dialogue between communities and individuals that might previously not have encountered each other in a dozen lifetimes. However, the Net could also become a homogenizing force, working to suppress diversity in favor of a bland globalism.

Individuals and communities should not be forced to forego local cultures and traditions in order to participate in the Net. In order to preserve the vitality that comes with a diversity of viewpoints, we should work toward helping the whole world participate as equals.

Social Responsibility in the Information Age

N Ben Fairweather and **Simon Rogerson**
with Jackie Rafferty, Penny Duquenoy
and Chris Megone

Contents

Foreword

As an organisation which recognises the key role of technology in achieving our goals. The Post Office welcomes the opportunity to become involved with the Advances in Social Responsibility in the Information Age series of seminars. Our participation has led to a greater understanding of the issues and has also enabled us to provide insight into some of the practical challenges involved in addressing such issues in corporate life.

This report forms a key part of the ongoing research into the social and ethical implications of the use of technology. The results of this research will support organisations in their drive to understand these implications and the impact they have on customers, employees and the wider community.

Alan Shepherd
Director Technology and Information Systems
The Post Office

Chapter 1: Introduction

This report arises from a seminar series funded by the Economic and Social Research Council under the 1997 Seminar Competition and with further sponsorship from The Post Office. Their support is most gratefully acknowledged.

Without doubt information and communications technologies (ICTs) are the most influential technologies yet devised. Since the early 1960s, society and its citizens and organisations have become increasingly dependent upon ICT. Indeed, computers are changing where and how we work, learn, shop, eat, vote, receive medical care, spend free time, make war, make friends and establish relationships. The computer revolution, therefore, is not merely technological and financial, it is fundamentally social and ethical. We now live in the Information Age where everyone should be concerned with the social and ethical impacts of the application of ICT, and the policies and decisions that facilitate this application.

The social and ethical implications of this technology warrant special attention and have resulted in the creation of a discrete area of research that has attracted people from sociology, philosophy, law, psychology as well as computer science and information systems. Much of the early work in the 1970s and 1980s was conducted in the USA. However, since the mid-1990s there has been a significant increase in activity within this area in Europe, with several applied ethics centres including IT related work and individuals in many different university departments undertaking work in this area. In the UK the formation of the Centre for Computing and Social Responsibility (CCSR) at De Montfort University, the only UK-based centre of its kind, has provided a focus for this type of research. CCSR has established the ETHICOMP conference series to provide a European forum to debate the social responsibility implications of ICT.
It has created a web site (http://www.ccsr.cse.dmu.ac.uk/) which is now recognised as the leading portal in this field.

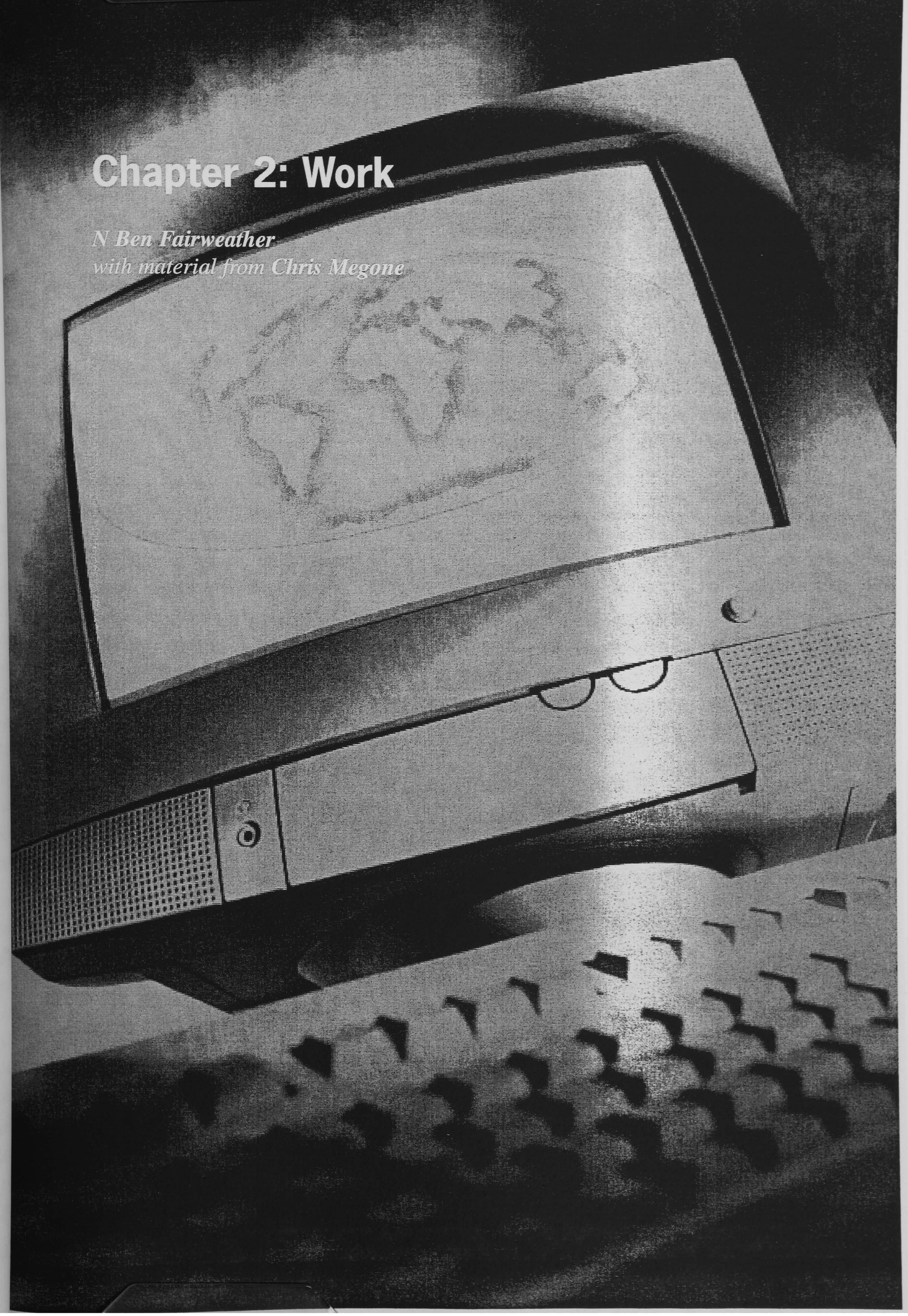
The seminar programme of which this is the final report consisted of six seminars at four venues spread from the south coast to the north of England, each on a different topic. The series has been a crucial step towards the goal of establishing a vibrant research community in this area that can inform ICT users and policy makers within the UK and participate fully in the global debate concerning the impact of ICT. The seminar programme has also:

- Fostered collaboration across disciplines and institutions in addressing the impact of the Information Age
- Provided a forum to identify and debate social responsibility issues related to ICT
- Promoted dialogue between the research community and ICT users and policy makers
- Provided support for new researchers in this area
- Linked with other initiatives concerning issues of the Information Age.

Each of the following chapters is based on one seminar in the series, with the vast majority of materials referred to being ones that arose out of the seminar.

Chapter 2: Work

N Ben Fairweather
with material from Chris Megone



Work is a creative activity contributing to the needs and wants of a complex community. This implies that workers will normally have interaction with clients and interaction with fellow workers. These interactions traditionally have been face-to-face, but are now increasingly carried out at a distance.

Location Independent Work

Increasingly in the information age, people are working in a location independent manner (location independent working – LIW). This means we need to think about why direct interaction is advantageous. Interaction with others gives the possibilities and advantages of friendship (in a broad sense). Yet, traditionally, friendship has needed face-to-face interaction.

'Virtual friendship' gives rise to problems for workers

- Creativity: it is easier to explore apparently wild ideas face-to-face, in private and unmonitored. Many ideas eventually implemented start life as debates about 'wild' ideas
- Isolation: even the most advanced communications technologies cannot prevent feelings of isolation. Remote workers may also either be forgotten or fear they will be forgotten
- Personal Development: much personal development takes place informally at work. For many this can be one of the great benefits of working life. A high proportion of informal contact is lost if communication is down-the-wire.

Location Independent Working (LIW) can affect

- Capacity for the employer/manager/ supervisor to manage work: management by results moves to the forefront, when it might not have been considered for location dependent working
- Capacity for employees to negotiate conditions (partly because union organisation is more difficult among isolated workers)
- Trust and privacy, if electronic surveillance techniques are used.

Location Independent Working radically affects the relationship between work and the community. Much of our world is structured around there being set places of work: whole service industries (eg office construction, cleaning, lunch provision, and transport) survive on providing for workers in those workplaces.

Similarly, LIW can radically affect the home and the community around the home. Virtually all LIW involves either work at home or work much closer to home. Greater presence in the home community in daytime means more trade for local shops. Less time spent travelling means more time for involvement in community activities. Reductions in travel associated with work (Home Office Partnership, 1998, p7) can also be expected to reduce pollution and road congestion where LIW is introduced.

When some work is within the house, it takes up space that could be used for household activities.

Often this can be an intrusion. When the house is small the intrusion will be greater: meaning that this intrusion will be greater for less wealthy workers. Beyond this, there is the psychological intrusion of work on the home. A lack of physical distance can cause a lack of emotional distance: work in the home can make it impossible to get away from work. Equally, someone calling at the door of the house on personal business may interrupt work for someone working at home: whereas if they are at work in a traditional workplace, the caller is inevitably ignored. Where a traditional workplace has a culture of long hours, and the team also includes some working at home, those working at the traditional workplace have been known to call those working at home 'teleshirkers' (comment made by seminar participant). Colleagues working in a more traditional way can easily resent the flexibility offered to LIWorkers.

Changing work patterns can also be expected to have effects on the design of offices and homes. More homes are likely to be built with one or two offices as part of the design. Meanwhile, if people are spending less time in traditional workplaces, it is to be expected that less space will be needed by these traditional workplaces. This can mean cost savings for employers. Perhaps some of the space no longer needed for offices will be taken over by housing, although the evidence seems to suggest that this will be largely by new employment using less offices while the more-or-less normal turnover of posts reduces the number intensively using offices in the traditional way.

Other Effects on Work

Even without LIW. the information age can be expected to have substantial effects on work.

There is increasing globalisation of work. Some industries are 'geographically footloose'. These industries are increasingly using ICTs to redistribute work around the globe. This looks likely to involve the retention of the most sophisticated and high value roles in what are currently the most economically dominant regions of industrialised countries, while less economically rewarding roles are 'exported'. This might lead to increases in levels of incomes in the countries and regions that receive the 'exported' employment. At the same time, global inequality may still increase further.

Work is increasingly becoming knowledge- and skills-based. Those without the knowledge and skills, and without the means of obtaining them, are increasingly being excluded from well-paid work. This exclusion is amplified if they are also excluded from access to advanced information and communications technologies (Castells, 1998), whether in less industrialised countries or areas of deprivation in more industrialised countries.

- Increasing numbers of workers are suffering repetitive strain injuries (RSI) from over-intensive use of keyboards, and use of ergonomically poor workplaces. Technologies that might reduce the use of keyboards also appear to give rise to RSIs, so there is little cause for optimism

- The speed, and increasing pace, of technological change increase the need for training, and repeated retraining
- ICTs bring ever more data to the desk of many workers. Information overload can be a severe problem, leading to excessive stress (Lau, 1998)
- Technology is enabling more employers to consider the use of surveillance (whether on not in the context of LIW). This "threatens to undermine the autonomy and dignity of workers" (Gooday. 1998). This can lead to a breakdown of trust between the employer and employee, to the detriment of both.

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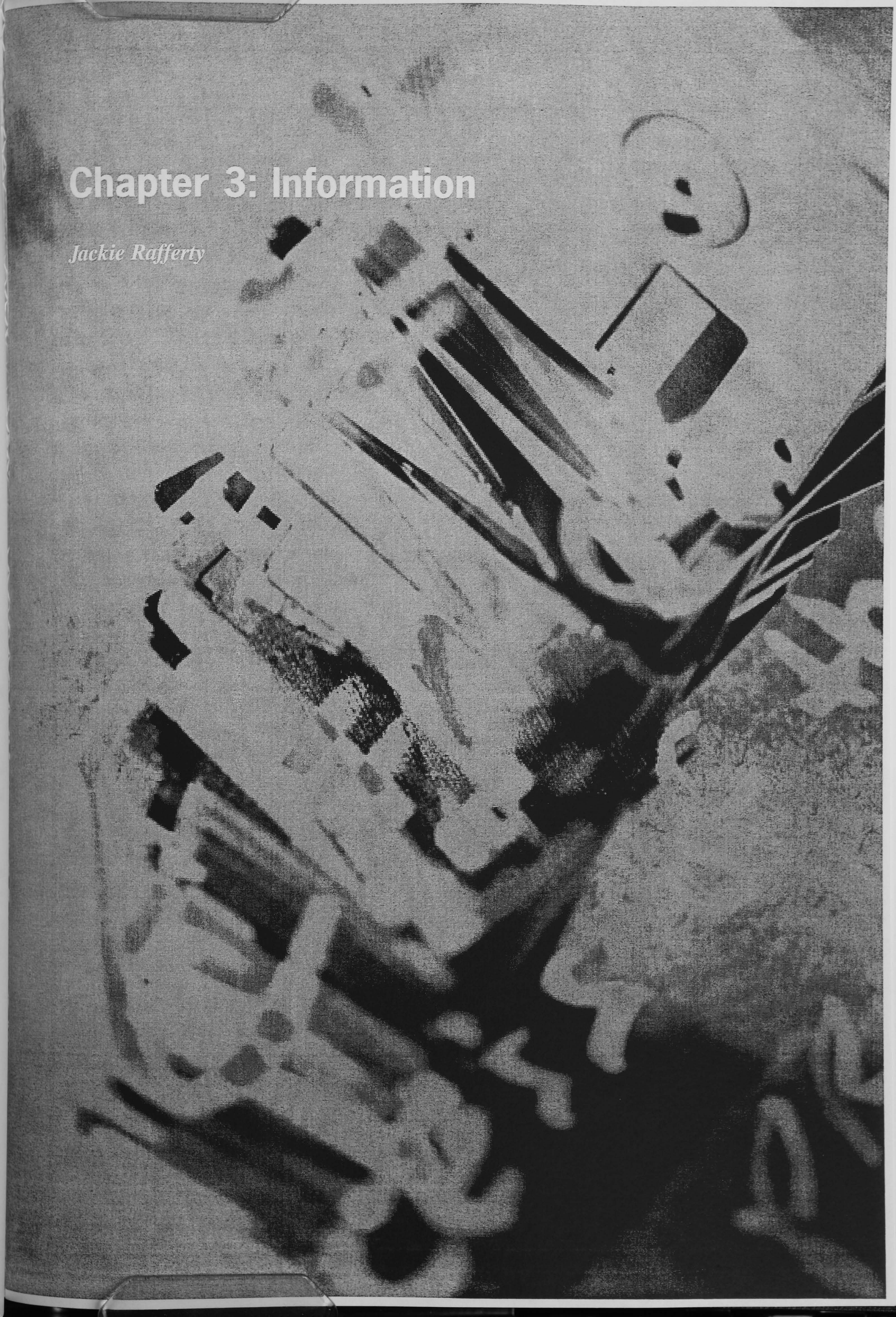
Chapter 3: Information

Jackie Rafferty



Information' is everywhere. Everything we see, feel, and hear contains information. How do we, as individuals, or organisations, synthesise information into our own experience? How do we make use of it in the 'knowledge economy' as 'knowledge management' takes hold? What we actually perceive is a mass of data. It is only transformed into information through the meaning that we impose on it. A further process of critical analysis and testing against earlier preconceptions is required for each of us to translate that information into knowledge. We cannot look at information provision without looking at the information recipients. This has a profound impact on the way information systems should be designed and implemented. Addressing the cultural, social and ethical agenda of how organisations manage their businesses is of great importance.

We set out by looking at information provision within organisations. The initial perspective was of examining and extending the role of the traditional 'professional systems developer' working for a 'client' to one of looking at the ethical and social impact on all stakeholders and the consequences for the education of computer scientists. To this end we started with the questions:

- What types of information do organisations use and for what purposes?
- How can information usage be managed in a way that balances the needs of all parties in an acceptable manner?
- How can information systems be developed within the context of social responsibility?

How much information do organisations collect through their information systems? How much of it do they use? Many large organisations are sophisticated users of information, data mining to achieve the information they require. Others, however, appear to be warehousing data in ‘data cemeteries’, just because collecting information is seen to be increasingly important. The advent of the 'digital age' and the 'information society' has increased the opportunities to collect and store information. Traditionally organisations kept information on personnel, products and payroll. Now information is collected on, for example, the buying habits of the supermarket shopper or the on-line behaviour of a bank's internet customers. There is often little clarity either within or outside the organisation about how the data will help the organisation's business, who should access it, or, indeed, whether the information becomes a commodity in its own right to be sold on. Few organisations large or small articulate the three strategies that might address these issues:

Information management strategy – why?

Information systems strategy – what?

Information technology strategy – how?

A fourth strategy also needs to be added: which is the 'who' – in terms of who are the information stakeholders and owners. As the Internet appears to have the effect of speeding up our world there “is more concern about the products of endeavours rather than the manner in which these endeavours are undertaken,” (Rogerson, 1996). Product rather than process becomes all.

Simon Rogerson argues for an inclusive perspective on planning, designing and implementing information systems with a wider rather than a narrower horizon. He cites a study of 16 information system projects where the perception of what and whom should be considered was narrow. All the stakeholders were internal to the organisations and in close proximity to the projects. There is a much wider range of potential stakeholders in any information system development that wishes to achieve a socially and ethically sensitive outcome. Included among such stakeholders would be owners, employees, unions, capital providers, government, customers, suppliers, community groups and competitors. If all the relevant stakeholders are taken on board at the outset of a project the process will embrace "the views and concerns of all parties affected by the project." Concerns over, for example, deskilling of jobs and redundancy effect the whole community relating to the enterprise.

Ian Whittington also illustrates the need to move away from the 'supplier-centric' model of information systems. He argues for a 'user-centric' view with cultural, behavioural and social issues being addressed. A user-centric view recognises that information (as opposed to data) arises at the point of understanding rather than from the point of provision. Focusing on the user also causes us to question who is the user, and who is the owner, of personal information. Data about people "can be and is moved around, consolidated, assessed, sold for high prices, used as the basis for all sorts of decisions, processed into composite reports and analysed . . . Fundamental issues of human rights arise from concerns about the reasons for this obsessive data gathering . . . " (Glastonbury & LaMendola, 1992).

The use of information involves making judgements as to the relevance of the information, its value and its potential effect on the actions of the individual and the organisation. Thus information may be labelled as valuable or worthless, as company confidential or non-confidential, as private or public, by both the individual and the organisation. Such interpretations will determine what information is gathered, how it is searched for, how it is arranged and what use it is put to. The meaning placed on the information is influenced by the attitudes and values of the individual and the organisation (McBride, 1999).

An individual's attitudes and values are informed by their cultural, religious, political and economic circumstances. These may, or may not, match the purpose of the organisation and the often unwritten culture of the organisation they work within. Wu (1999) asks “whose values and principles should be adopted: the developing professionals or the sponsoring body, or some other independent third parties with authenticity and authority?”

Ethical use of information highlights issues of:

- privacy and confidentiality
- ownership and accessibility
- equity
- accuracy
- quality and reliability.

But ethics itself is a vast area of study. The issues above may equally be adequately addressed by an organisation running a website selling pornography as by a social services department dealing with sensitive personal information. A web business may well assure its customers of privacy and confidentiality, quality and reliability.

Raab (1999) addresses the crucial issue of individual privacy and the need to manage the use of personal information in a way that balances the needs of all parties in an acceptable manner. He highlights the difficulties of identifying 'all parties' and the fact that their needs or interests may not be determined in a straightforward manner. He argues that the concept of 'balance of interest' is flawed, both as an outcome and a process and that "ultimately it is a political process involving conflict as well as consensus involving data controlling organisations, individuals (data subjects), regulatory organisations (data protection commissioners), judicial and political bodies, and others." (Raab, 1999) This idea is supported by Whittington who sees problems balancing the needs of different stakeholders even within an organisation "where there are conflicting drivers and issues of security against availability". Increasingly the balancing act has to take on the complexity of crossing national boundaries, including different legal entities, cultures and norms.

Ethical codes are increasingly having an impact on information provision. Ever more professionals dealing with the information systems are members of bodies with codes. Yet, although Information System professionals are governed by codes of ethics Rob McCusker suggests there is "a degree of naivety amongst organisations and some academics concerning the benefits of codes of conduct for an organisation, and ultimately for the public . . . Such naivety rests upon the notion . . . that an ethical code makes an unethical company ethical" (McCusker, 1998). For ethical outcomes there is a need for integrity, moral attitudes and judgements. As McCusker says "many in the criminal fraternity operate under a self-regulated and strictly enforced code of conduct. One would be unlikely to conclude that the mafia, for example, was an ethical organisation in consequence." (McCusker, 1998)

The challenge for socially responsible information provision is therefore multiplied. This is because what we are addressing is 1) the need and means of educating information system developers who are able to integrate the ethical dimension into their work, and 2) the need to develop a society where the norm is for organisations and businesses to behave ethically, morally and with integrity in all their transactions.

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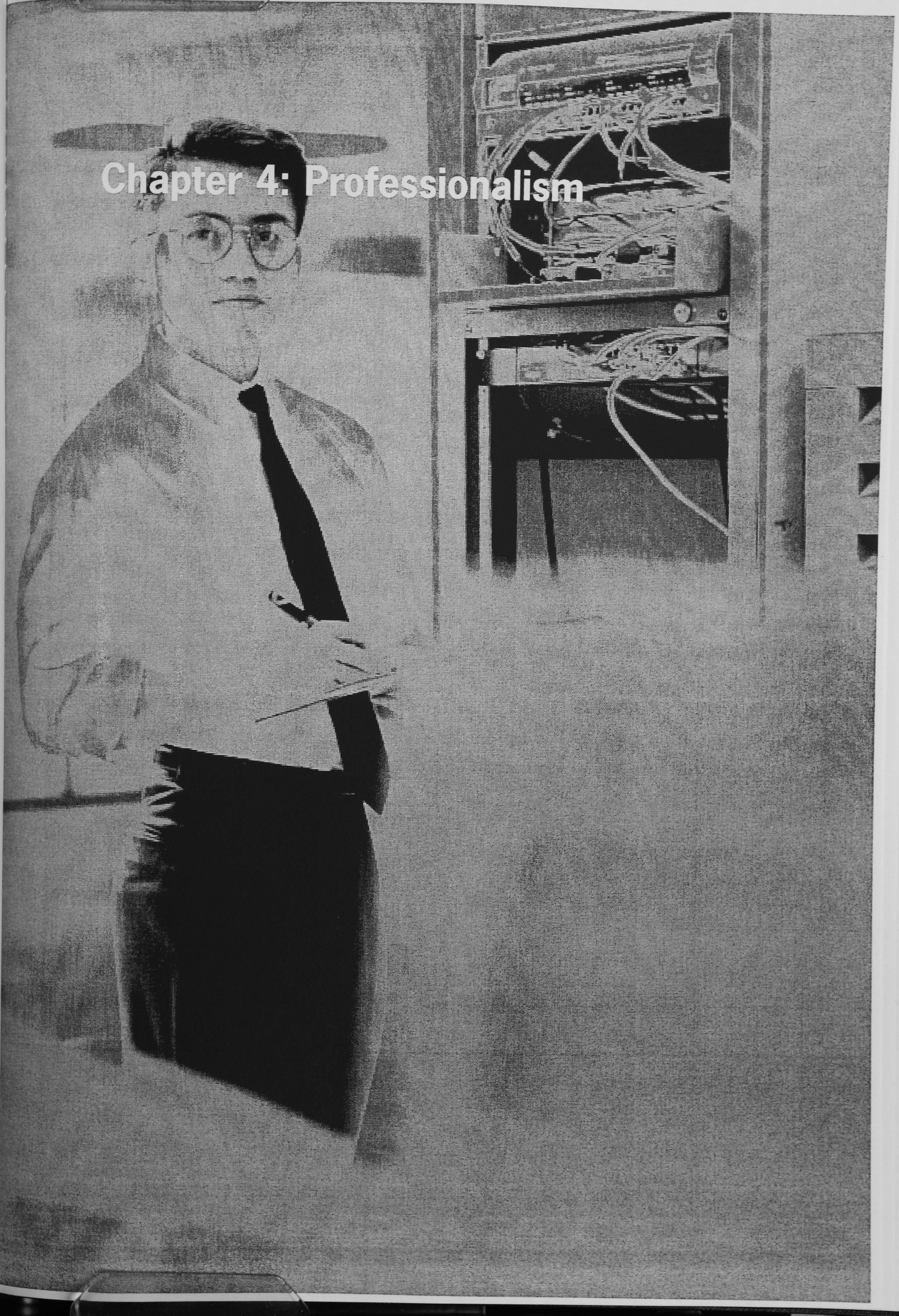
Chapter 4: Professionalism



We live in a world where the power of information and communications technologies has increased massively. Yet the sense of responsibility of the professionals working most closely with those technologies has stagnated. What does it mean to be a profession? What are the roles for standards, codes of conduct, regulation, the law, ombudsmen and peers in promoting professionalism?

A Profession

"The classic professions, such as medicine and law, are characterised by having closed membership, professional bodies that can sanction members, protracted periods of training, detailed knowledge, independence and an internally defined code of conduct" (Spence, 1999). Occupations in information and communications technology may require detailed knowledge, and there may be internally defined codes of conduct for some; but they don't have closed memberships, or professional bodies with meaningful sanction powers.

One of the factors that has long marked out the professions in the minds of the public is that "members of the public accept that they do not themselves have specialist knowledge . . . and they therefore trust the better judgement of professionals in these areas" (Spence, 1999). True professionals are those that respect this trust, and earn and deserve it, by looking beyond their own narrow self-interest and the self-interest of their employers.

- Professionalism implies a commitment to the interests of all end-users and other stakeholders
- Professionalism and excellence require much more than delivering on time and within budget. There are occasions when to deliver what is requested on time and within budget would mean to deliver a dangerous and/or malfunctioning system.

The Industry

The software engineering industry is an industry that "tends still to be mesmerised with technological aspects" (Thompson, 1999). The interest in the technology is, after all, much of what draws people to the industry.

- There is a severe danger that codes of ethics will reflect a narrow technical perspective
- Where a code makes reference to certification it is important that (1) it should not just reflect narrow technical skills (if it does, is 'professionalism' an appropriate word?) and (2) no particular commercial certification should be mentioned by name when impartiality would be more appropriate.

One possible route for an employer seeking high moral standards might be thought to be to only employ members of a professional body. There are problems with this. Firstly, so long as the professional body has no effective sanctions, there is no guarantee that the professional body would approve of the activities of its member, even if those activities were known. Secondly, many

workers with appropriate skills are not members of professional bodies: and there is no great reason to think that those who are members of a professional body are more ethical.

- Ethical awareness should be part of the job specification for jobs in ICT; this could be tested at interview – however: there could well be practical difficulties finding candidates who would meet this criterion, at least in the short term
- If you cannot recruit ethically sensitive staff: in-house ethics education sessions should be run. These should not be just a one-off session at induction, but an approach that encourages continuous staff development and on-going discussion of ethical issues
- There are doubts about whether staff could be trained into an organisation's value system when they may already have developed a value system of their own; however there is evidence that ethical training can be effective
- Impartiality is impossible: we all have biases; the aim should be to help staff recognise this and to become aware of their own biases.

Within a Broader Organisation

There is a danger that the managers of the organisation will take the attitude "I employ computer people to worry about our computers so I don't have to', while the 'professional' will take the attitude 'I have enough to do without worrying about the uses to which my work is put: that's management's job" (Langford, 1999).

A number of measures can be taken to reduce the chances that moral responsibility will fall between safe, but shy, pairs of hands.

- In many organisations, the IS community is quite separate from the rest of the organisation; it would be much better if the IS community were to promote themselves and publicise what they are doing
- IS departments should be open to outside scrutiny and audit
- The boundaries of responsibility for each job need to be clear. Nonetheless, it is important to avoid a narrow task focus. The aim should be towards a more holistic view of responsibilities: to ALL stakeholders
- Responsibilities don't stop at the doors of the company: responsibilities are wider than to personnel within the company
- Standards for ethical behaviour should be specified and evaluation of employees' performance against them should be included in their annual appraisal, with direct links to salary and/or promotion prospects.

The Individual Professional and the Wider Profession

Because there is a moral responsibility on professionals to look beyond their narrow self-interest, there are a range of obligations in the way they interrelate to the wider profession.

- New recruits to the profession will look around them to see what behaviour is expected of them. The professional has a responsibility to new recruits, to set high standards, and to lead by example

- A professional has a duty to other professionals: eg to share new ideas or examples of good practice
- It is the duty of the IS/IT professional to provide leadership and guidance to the end-user community; a senior 'champion' for ethical issues is one idea worthy of further consideration.

Further Research

- The concept of an ethics advisor and/or advisory committee needs investigation. There is a real possibility that organisations can be persuaded that it is more profitable to correct a poor system than to release it onto the market. At the same time, though, there is a risk 'professionals' will stop thinking seriously about ethics, taking the view that it is the work of the advisors.
- Few would deny that professionalism is part of the answer to the ethical worries raised by ICT. However, the professionals are likely to be white, literate, middle aged or young, urban, not disabled, and men. The information age affects, and can be affected by very many more people than the professionals in the ICT sector. Can all the perspectives of the population be fully taken into account by professionalism alone?

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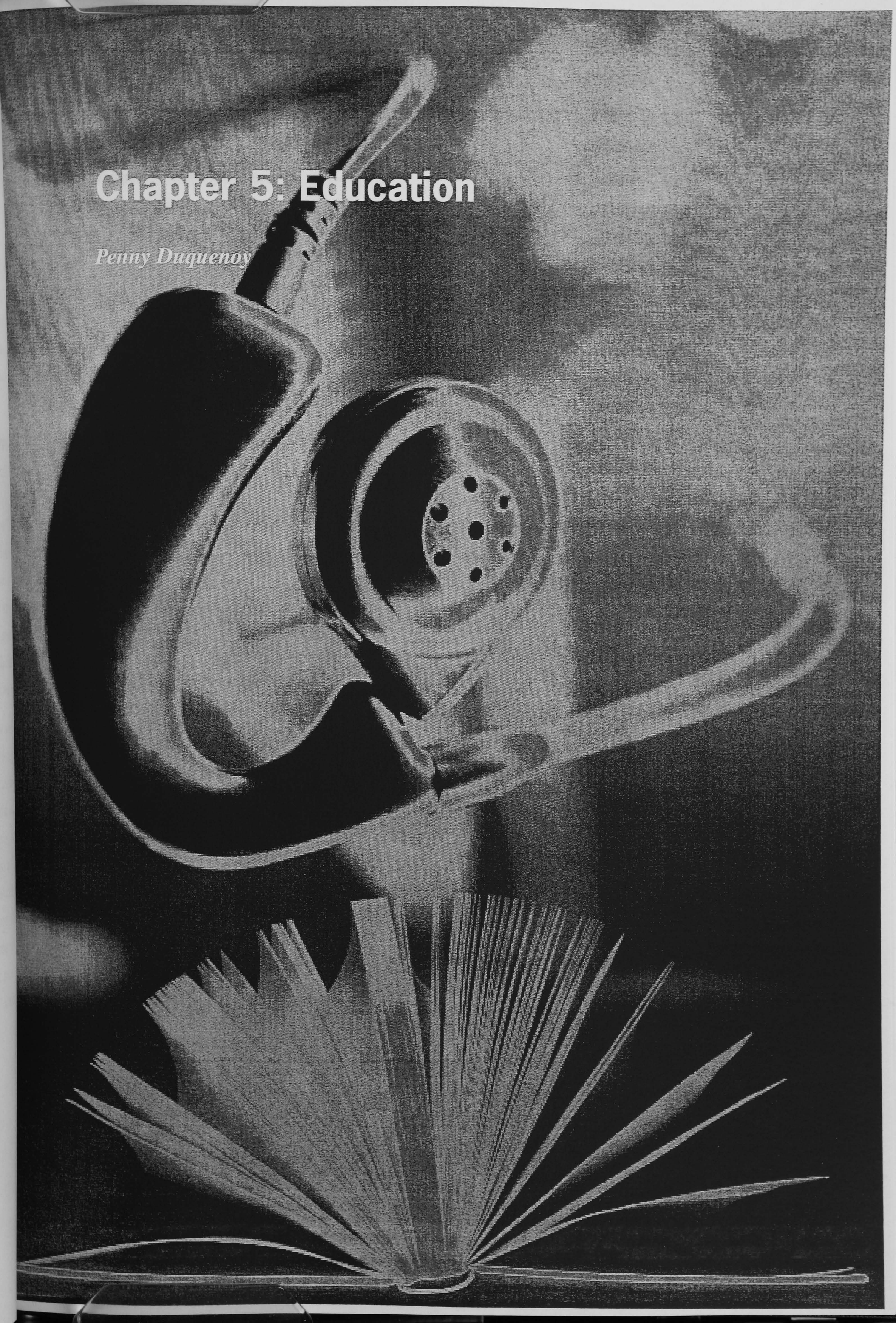
Chapter 5: Education

Penny Duquenoy



The vision of Virtual Education is being transformed into a practical reality. What are the ethical and social issues pertaining to education and learning in a virtual context?

The context of Virtual Education

Simon Rogerson (1999) points out that there was a distinct gap between the perceived potential of virtual education, and the actuality of achieving that potential.
The driving forces behind virtual education (VEd) were meeting with a number of practical constraints.

Driving forces:

- technology suitability
- increasing obsolescence of knowledge
- increasing quality through enriching variability
- perception of a market place for expansion without cost increases
- need for access to education for isolated learners
- expectations of policy makers.

Practical constraints:

- lack and cost of network access, computerless learners
- copyright restrictions
- high start up costs
- demand for equitable access for isolated learners
- technology aversion by teachers
- credit transfer
- independent vs dependent learners.

The vision of VEd includes a 'global' education community thereby introducing a variety of cultural approaches and attitudes to education. Issues such as mode of address, voice tone, attitude to assessment, language and understanding, and the type of pedagogical approach (student-centred constructivist or teacher-centred transmissive) may have an impact on learning.

The Issues

The issues under discussion were wide ranging, but can be categorised under the headings of infrastructure, human factors in teaching and learning, and wider social implications.

1 Infrastructure

The infrastructure supporting virtual education is a combination of technological and human resources. The most pressing concerns are:

- **Technological**
  - capability
  - reliability
  - predictability
  - controllability
  - cost of access (in terms of equipment, software and telecommunications).

It must be remembered that there is usually a considerable performance difference between institution-based resources and home-based resources.

- **Human resources**
  - adequate training and technical support (for tutors and students)
  - increased opportunities for surveillance and/or censorship by managers
  - potential loss of autonomy by lecturers, leading to loss of professional status
  - working conditions (with the potential for 24hr access will tutors be asked to work increasingly unsociable hours, will technical support be available 24hrs?)
  - working environment (will it be suitable for tutors and students?)
  - teaching redundancies
  - the role of educational establishments as employers and resources in the community.

2 Human factors in teaching and learning

There is a great deal of concern about the loss of face-to-face interaction. Education is characterised as "more than information or knowledge transfer". Even in established distance learning initiatives (the Open University is a well-known example) contact time is considered a vital ingredient. Face-to-face communication carries a wealth of subtle aids to mutual understanding, giving vital feedback to both tutors and students.

Contact time between tutors and students is important to clarify misunderstandings, provide alternative explanations, correct incorrect assumptions, and to encourage and provide support to the student. Although text messages and/or video conferencing can be used in this way (video conferencing currently has severe limitations), these methods are not as efficient as face-to-face interaction: more time and effort may be needed on the part of both the student and the tutor to get the same results.

Virtual education emphasises a mechanical approach to learning. This mechanical approach views learning as simply a matter of working through units of assessment. This ignores the inspirational effect an enthusiastic tutor can have on students, bringing excitement and motivation to learning. It is hard to see how such a quality could be replicated virtually.

Face-to-face communication both between tutor and student, and students and their peers, is an important factor in the integration of students in a social world. Aside from the commonly voiced concerns with regard to isolation through extensive engagement with computers, learning is enhanced through informal and ad hoc discussion with others.

Shared experiences forge relationships, build trust, and build self-confidence. Student presentations (individual and group) are currently encouraged in higher education for all these reasons – what is the virtual equivalent?

3 Wider social issues

A predominant concern regarding technology-based learning is the question of equal access. It is obvious that economic factors and levels of literacy (both in the traditional sense and computer literacy) are constraints to equal access. Less obvious, in the UK at least, are cultural constraints and language barriers. Methods of teaching and approaches to learning vary between cultures. Learning can be inhibited in a cultural context that differs from that of the provider of the learning module. Most of the development of virtual education has been carried out from a western perspective, and uses the English language. Yet much VEd development aims to sell western education, through the English language, to other parts of the world. The combination of these factors (cost, literacy, culture and language) are likely to widen the education gap, in contrast to the utopian picture of "education for all" painted by the advocates of ICT and VEd.

Questions about the appropriateness of education to the importing country need to be asked.

- Does the education provided meet local needs?
- Is it in "tune" with local issues and practices?
- Does virtual education support or hinder local education resources?

The quality of education provided is also a cause for concern. There are perceived financial incentives for the providers of virtual education – who are those providers likely to be, and will standards be maintained? Will we see the promotion of economically viable projects to the detriment of other courses? Will advertising be brought into the picture, and is this appropriate?

The 'reality' of Virtual Education

The implementation of virtual education is still at an experimental stage. The three case studies summarised below consider different perspectives: (1) operational; (2) access; and (3) questions of viability.

1 The automated learning of IT skills

The reported (Begg, 1999) advantages for this particular project were that students were able to learn IT skills, there were no handouts and therefore a saving of paper and preparation time, and the marking was automatic with a further saving of staff time.

In practice, a number of problems arose. A server error meant that some automated tests had to be abandoned. Students accessed the program using individual passwords but there was nothing to stop unscrupulous students from asking friends to do the tests on their behalf. There was also an assumption that the students' had a good command of English and had a western cultural background. Yet a proportion of students did not have such strong command of English and had a different cultural background.

2 Access Issues

- Telephone support may be available for resolving technical difficulties, but hands-on help is not provided (Wilkinson, 1999), when sometimes hands-on help would get the problem solved many times more quickly

- Where practically available, staff and students may be limited to the number of hours they can use dial-up access to the university network each month. Beyond these hours they are dependent on a commercial service provider (Wilkinson, 1999), and thus have to pay attendant costs (whether obvious or hidden costs)
- Computers attached to university networks are (largely) equipped to handle graphics, video, sound and various plug-ins – many home users are not
- Increasingly libraries offer access to materials on CD-ROM. Many of these can be accessed outside the library building, improving access to library reference materials. However, often CD-ROMs licensed to university libraries are only provided for staff/students using the internal university network, not to those linking from home. Courseware provided in the university or college is likely to be even more restricted (Wilkinson, 1999)
- Postgraduate students who live at a distance have the advantage of working from home, but incur costs for computer, telephone connection time, software and printing.

3 Viability

The following is an extract from "What Virtual Education Means to (Australian) Universities" (Simpson, 1999):

My own current attempt at Virtual Education has stalled. The subject is called Professional Issues in Information Technology (PIIT). I have been requested to "put the subject up on the web", which concerns me deeply, as it is framed largely in terms of Computer Ethics and thus depends enormously upon human interaction, dynamic discussion, immediate response and body language, all of which are deficiencies of Virtual Education.

Let me demonstrate my dilemma by analysing each element of the course as it stands with a view to transmutation into Virtual Education format:

- ***Lectures:*** *These are mainly by guest lecturers. Most have been video-taped and are available in the library. Is this Virtual Education? Possibly it is Flexible Delivery. However, via video, a student misses spontaneity, ambience, body language, sees only what is on the screen and cannot ask questions. Why not use Video-on-demand? No, this is far too resource-hungry to be an option at one hour per lecture. Why not put the transcript on the web? Where a transcript exists, it would be feasible, but a poor substitute*
- ***Plenary Debates:*** *These have not been recorded and would be very hard to emulate without total emasculation. Why not replace them with an asynchronous email debates? It may be possible, but it would be a totally different dynamic and require much longer periods of time per debate*
- ***Plenary Discussions:*** *These follow the debates and relate not only to the debate, but also to separate scenarios. The same comment applies as for the debates*
- ***Tutorial:*** *It is currently structured as an entirely social phenomenon, dependent upon the week's activities. It also involves self-assessment (in public) on one hand and group support on the other*
- ***Presentation at the Tutorial:*** *How could a presentation be done by Virtual Education? It cannot! Essays are not an alternative. They are required for the logbook anyway*
- ***Logbook:*** *This is the one remote activity that can survive. It would be desirable to maintain regular check-points if the tutorial forum is replaced. An on-line tutor's workload would be much greater*
- *Conclude from this analysis that for a non-technical, socially dependent subject, transmutation into Virtual Education is quite out of the question, if not suicidal. On the other hand, total re-design may be an option, but would require much ingenuity and experience to minimise losses. Yet in every case, some face-to-face contact is essential for a high quality, higher education, philosophical subject.*

Summary

There are a wide range of social and ethical implications inherent in the adoption of Virtual Education. Despite the apparent negative theme here, it is widely acknowledged that Virtual Education has something to offer. The apparent emphasis on the problems and potential adverse consequences of education delivered via ICT is a reaction to the heady utopianism of advocates and initiators of Virtual Education (mainly policy makers in higher education, governments, and commercial education providers). It arises from a desire to seek a balanced perspective. This is not to say that these concerns are in any way trivial – far from it. What is evident is that the vision of virtual education as the answer to "education for all" does not match the current reality, either in technical or human terms. A number of questions need to be answered, and myths exposed, before virtual education is taken up as the route to the 'promised land' of education and lifelong learning.

Further research

Within any new field there are bound to be an enormous number of areas requiring investigation. Research at all levels and across disciplines is recommended. Empirical research, particularly case studies, would be valuable. Some of the suggested areas follow.

Definitions

- Fundamental to the role of virtual education is an analysis of what education is perceived to be; its aims and objectives.

Appropriateness

- How appropriate is virtual education?

For example:

i) Remote access may be an advantage in areas having a widely dispersed population but less so in more densely populated areas

ii) Some programmes of teaching are likely to be more suitable in this environment than others

- Is it really necessary per se, or will it add an extra dimension to the learning experience?
- Is it dehumanising, a political exercise or just an expedient?
- What are the limits of virtual education?

The process of teaching and learning

- Is virtual education the best way of teaching and learning?
- How does communications and IT alter the nature of the interactions between the participants in the educational activity? Is it a collaborative or a competitive venture between:
  - staff-employer
  - staff-staff
  - staff-student
  - student-student
- Is access to learning and resource material equal for all?
- How are decisions made about delivery of materials?

- What is the best way of presenting material? (and what are the losses and gains?)
- The role of face-to-face communication in teaching and learning
- The role of the tutor as mentor, inspirer, and motivator
- Does the educational community maintain independence and objectivity?
- What are the implications of commercial funding?

Cultural issues

- Teaching and learning concepts and methods
- Language
- Cultural context
- Homogeneous education in a diverse world.

Impact

What is the impact of virtual education on

- Local communities
- Other avenues of learning (e.g. experiential, books)
- Learning skills (writing, researching).

Human needs

- Social interaction (i.e. does virtual education encourage social isolation)
- Building trust in the learning environment
- Physical disabilities
  - is working from home beneficial or isolating?
  - usability issues
- Identity in a "textual" environment
- What is the effect on personal confidence?

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Chapter 6: Privacy

Privacy in the Information Age

In the early 1990s, as many as 78% of the US population agreed "that computer technology represents a threat to personal privacy and that the use of computers must be restricted sharply in the future, if privacy is to be protected" (Culnan, 1993). Yet rather than being 'restricted sharply', computers are used in ever more ways that give rise to privacy concerns.

A huge proportion of the information that drives the information age is derived from data that is about individuals, or can be linked to individuals. On top of this, it is easier than ever to store, duplicate, manipulate and communicate that data, which can take the form of text, images, and recordings of sound, video and at times even touch. It is also easier than ever to associate these data types with each other.

It is technically easier than ever to quickly gather, and search, vast amounts of data about individuals. The technologies that facilitate 'data mining' and matching large data sets are becoming ever more commonplace (Jefferies, 2000), with legally sanctioned 'Crime and Disorder Partnerships' and attempts to detect fraud resulting in new data matching programmes (Simpkins, 2000).

One result of the increases in data collection and data mining is the practical possibility of "Data surveillance . . . the omnipresent and often hidden monitoring of the business of life" (Davies, 2000). This means that "A human being can now be tracked across the globe by the data shadow they leave behind them – petrol here, cash machine here, cctv in an airport, credit card purchase in another country, logging on to collect email" (Simpkins, 2000). Privacy is ever more an issue in the information age.

Key Worries

As with so many other issues in life, the impacts of loss of privacy will not fall equally or equitably. Due to distinctive names, or less common skin colouring, or disability, some people are easier to identify than others – equally some people are easier to mistake for each other. Beyond simple identification, some people have more need for privacy than others. Not everybody is equally likely to be targeted as a potential victim by criminals. Similarly, well educated, articulate, native speakers of English are more able to pursue the legal remedies available to protect their privacy.

Thus a key question is how to prevent abuse of data in the first place. The most worrying kinds of abuse seem to fall into two main categories:

1) individuals seeking illegitimate personal gain, perhaps through criminal acts
2) authoritarian governments seeking to control populations (Davies, 2000).

Legislation and its Limits

Under the 1998 Data Protection Act, data controllers in the UK are required to take measures to prevent data being used in illegitimate ways by individuals. These measures include a requirement to 'take reasonable steps to ensure the reliability of

any employees . . . who have access to the personal data'. However, without rights to check criminal records of these employees "it is difficult to perceive how a data controller might comply with this requirement". (Heaton, 2000).

While there is legislation to protect privacy in very many jurisdictions, there is a mismatch between the size of these jurisdictions and the largely global nature of trade, especially in data for which the transport costs are so near zero. Thus "Global trade is threatened by data protection and privacy legislation formulated by one trading block if due regard is not paid to other trading blocks." (Howley, 2000). Given the all-conquering power of global trade, it seems apposite to ask "What degree of protection is feasible or acceptable in a technological age that demands greater data collection, provides for easier surveillance and provides increasingly limited scope for withholding information?" (Jefferies, 2000).

Even if legislation remains of some practical use, it depends for its force in deterring breaches. Short of repressive enforcement, this will need those with access to data and influence over security measures to act responsibly. A key question is how to engender this (Jefferies, 2000). Will certain styles of regulation be more adept at fostering responsible behaviour?

- There is a need to work out criteria for evaluation of the regulation that exists at any given time for its adequacy and robustness
- There is a need for feedback into current implementation and feed forward to inform future regulation.

Privacy inter-relates with a raft of other issues. For example, as well as Data Protection laws, Human Rights and Freedom of Information legislation may also have an impact, putting pressure on public bodies to release information about which there are privacy concerns (Bhoot, 2000). Other legislation with an impact includes the Public Interest Disclosure ['whistleblowing'] Act and the Crime and Disorder Act (Simpkins, 2000).

Looking Forward

Prior (2000) asks "why are so many of us colluding with the collection of our personal data, not all of it secure nor its uses protected by law?" On one level we do so because it is more immediately convenient to do so than to resist such collection, but the issue is more complex than that.

- There is a need for economic analysis across different privacy regimes – how much is privacy worth in short term and long term? Does Data Protection impair economic growth? Both macro – and micro-analyses are appropriate.

Future technologies raise new issues about privacy. For example 'intelligent agents' (programs that make decisions in a largely autonomous way) could be making decisions about highly sensitive personal data outside the human context that might be automatically implicit to any other human (Duquenoy, 2000). Similarly, Geographical Information Systems can have privacy implications when tied to systems monitoring physical mobility.

- There is a strong argument for an impact assessment whenever a new technology is developed that takes account of privacy effects, although it is not widely thought that it should be an absolute requirement in every case – research is needed on what form such assessments should take.

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Simpkins, 2000 "Privacy Issues in the Public Sector" Case Experience presented at Personal Data: Issues of Ethics and Regulation Seminar held at De Montfort University, Leicester, 27.01.2000

Chapter 7: Participants

There were 70 participants in the series.
The following attended one or more of the seminars.

Industry

1. **Heaton, Debbie** – Abbey National
2. **James, Ursula**
   Community Affairs Manager, IBM UK
3. **Jay, Rosemary** – Masons Solicitors
4. **Kershaw, Sylvia** – The Post Office
5. **Lake, Andrew**
   The Home Office Partnership
6. **Parrott, Wayne** – The Post Office
7. **Shipway, Colin** – BG Technology
8. **Starbuck, Paul** – The Post Office
9. **Tuppen, Chris** – British Telecom

Education

1. **Begg, Mohamed** – De Montfort University
2. **Butler, Laonie** – De Montfort University
3. **Bynum, Terry**
   Southern Connecticut State University
4. **Byrne, Brian** – University of Salford
5. **Cameron, Euan** – De Montfort University
6. **Coomey, Marion** – Middlesex University
7. **Davies, Jenny**
   University of Wolverhampton
8. **Duquenoy, Penny** – Middlesex University
9. **Fairweather, N Ben**
   De Montfort University
10. **Gooday, Graeme** – University of Leeds
11. **Gotterbarn, Don**
    East Tennessee State University
12. **Gough, Tom** – University of Leeds
13. **Hardcastle, Alan**
    University of Wolverhampton
14. **Hargreaves, Martin**
    De Montfort University
15. **Hemingway, Chris** – University of Leeds
16. **Howley, Richard**
    De Montfort University
17. **Jefferies, Pat** – De Montfort University
18. **Jones, Matt** – Middlesex University
19. **Lander, Rachel**
    De Montfort University
20. **Langford, Duncan**
    University of Kent at Canterbury
21. **Lau, Lydia** – University of Leeds
22. **Leadbitter, Jim** – Leicester College
23. **Logan, Bert** – De Montfort University
24. **McBride, Neil** – De Montfort University
25. **Megone Chris** – University of Leeds
26. **Oram, Denise**
    North East Wales Institute
27. **Pouloudi, Nancy** – Brunel University
28. **Prior, Mary**
    Nene University College Northampton
29. **Raab, Charles D.**
    University of Edinburgh

30. **Rafferty, Jackie**
University of Southampton

31. **Rahanu, Harjinder**
University of Wolverhampton

32. **Rake, Steve** – University of Southampton

33. **Rogerson, Simon**
De Montfort University

34. **Rourke, Graham** – Southbank University

35. **Rowe, Matthew**
De Montfort University

36. **Shiner, Janice** – Leicester College

37. **Simpson, Chris**
Swinburne University of Technology

38. **Spence, Laura** – Kingston University

39. **Storey, Andrew** – Sunderland University

40. **Thimbleby, Harold**
Middlesex University

41. **Thompson, Barrie**
Sunderland University

42. **Trezise, Edward** – Cheltenham and Gloucester College of Higher Education

43. **Turner, Eva** – Middlesex University

44. **Urwin, Paul** – De Montfort University

45. **Weckert, John**
Charles Sturt University, Australia

46. **Whyte, Bill** – Leeds University

47. **Wu, Xiaojian** – De Montfort University

Central Government

1. **Hughes, Martin** – Individual Member
Parliamentary IT Committee

Local Government

1. **Bhoot, Jody**
Leicestershire County Council

2. **Butlin, Norman** – Devon County Council

3. **Gill, Parmjit**
Leicestershire County Council

4. **Griffith, Bob** – SOCITM

5. **Hunter, David** – FITLOG

6. **Pickup, Sarah**
Hertfordshire County Council

7. **Simpkins, Paul**
City of Bradford MDC

Government Agencies

1. **Attewell, Jill** – The Further Education Development Agency (FEDA)

2. **France, Elizabeth**
Data Protection Commissioner

3. **Jones, Philip** – The Office of The Data Protection Commissioner

4. **Smith, David** – The Office of The Data Protection Commissioner

Other Agencies

1. **Bowden, Caspar** – Foundation for Information Policy Research

2. **Devereux, Linda**
National Group on Homeworking

Published by

De Montfort University
The Centre for Computing and Social Responsibility
The Gateway
LEICESTER
LE1 9BH

website: www.ccsr.cse.dmu.ac.uk
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Telephone: 0116 250 6143

ISBN: 185 721 3149

EURIM Briefing No. 25

March 1999

The Parliament/Industry group

concerned with the politics

of the Information Society.

The Role of Self-Regulation in Electronic Commerce

Introduction

The draft directive on "certain legal aspects of electronic commerce in the internal market" calls for a system of self-regulation as the most effective way to achieve a suitably controlled environment within which electronic commerce can thrive in the Single Market. This Briefing examines the issues of "governance" and their implications for the Internet - the principal vehicle today for consumer electronic shopping. Some of the issues are equally important for corporate intranets, which carry much of the business-to-business electronic commerce traffic.

In view of the relative immaturity of the 'Internet industry' it is unlikely that legislation is appropriate at the present time except where there is a pressing need for consumer protection or protection of rights (such as intellectual property) and personal data.

Some form of control is desirable to secure user confidence and safeguard consumers. Broadly based legislation is, however, too cumbersome and inflexible to meet the needs of a multi-faceted, but still immature, global industry, whose underlying technology will be subject to rapid change.

EURIM believes that self-regulation, despite some disadvantages, is the most appropriate form of governance for electronic commerce at the present time. It can apply to a global community in a way that is not possible for any national legislation. While primarily based on compliance with guidelines or formal Codes of Conduct, self-regulation may also be used within statutory frameworks which set out principles and establish penalties for non-compliance with approved codes.

There appears to be wide support for self-regulation, not just within the European Union: At the Ottawa Conference on Electronic Commerce in October 1998, the OECD declared a "need to create and implement trustworthy technologies and policies ... to develop underlying regulations for electronic commerce, and to develop codes of practices, standards, and technology tools necessary for 'self-regulation' and effective user protection. Government intervention, when required, should be proportionate, transparent, consistent and predictable, as well as technologically neutral."

The Financial Times on 1st December 1998, ("Electronic Commerce: White House backs Self-Regulation) quoted President Clinton thus: "The Internet should be a free trade zone with incentives for competition, protection for consumers and children, supervised not by governments, but by people who use the Internet every day,"

Recommendations

1. At both European and Member State level, governments and officials should give ideological and practical support to initiatives designed to develop effective self-regulatory regimes for electronic commerce.

2. This support (including financial aid in some cases) should be directed towards the creation of guidelines and codes of conduct, with co-operation and standardisation across industry, user community and state boundaries where appropriate and practical.

3. Processes are required to ensure that self-regulatory structures are: publicly accountable; compliant with competition law; fit for purpose (including enforcement procedures); and that there is a strong incentive

for all providers of relevant services to participate.

4. Regulation by legislation should be a last resort and only where there are clear and pressing needs (for example to protect consumers or prevent content piracy) that cannot be achieved through self-regulation alone. Any such legislation should be equivalent to "off-line" law in that area.

Why Regulate?

Existing regulatory requirements do not meet current needs. The successful evolution of the public Internet as a communications medium so far has largely been due to an original culture of common consent (i.e. commonly accepted set of rules and behaviour). However, the Internet has grown beyond its original close-knit community. Demands are being made for stronger measures to be taken to prevent, as far as possible, harmful exploitation. More formal methods are required, but a balance needs to be achieved between over-constraint (in the form of legislation) which would seriously affect one of its main advantages (fast, easy, global communication), and the original 'no restraint' position.

Regulation must take account of rapid, dynamic technological change, the difficulty of achieving technological neutrality and the practical realities of global networks carrying material created under different jurisdictions to those in which it may be accessed or through which it may be routed and/or stored.

The slowness of legislative processes is compounded by the need for global agreement and subsequent national implementation. The global Internet is complex and interdependent and by its nature is said to make physical territorial boundaries meaningless.

Apart from the difficulty of achievement, a single Law is unlikely to be appropriate to all the different sectors involved in the many aspects of electronic commerce, nor to the requirements of all the differing cultures represented.

In the exceptional areas where legislation is considered essential, care should be taken to see that, as far as is possible, "on-line" regulations are equivalent to those "off-line"

Self-regulation has a number of potential advantages. In particular:

- it is dynamic, being able to evolve according to need;
- it is adaptive, being less tightly constrained than is legislation;
- it is faster to implement than legislation;
- it can be made sector-specific based on common underlying principles;
- it can apply to a global community across national jurisdictions;
- it is easier to enforce within the 'club';
- industry involvement may make self-regulation more relevant;
- it can respond to market forces;
- the burden of cost falls on those with commercial interest and saves government funds.

There are also, inevitably, potential disadvantages, amongst which are:

- the problem of enforcement, if no statutory backing exists;
- unless participation is obligatory, regulatory measures affect only those disinclined to flout the rules;
- the "self" being regulated may not be accountable to any independent body;
- procedures can fall short of standards that would be set by Courts (eg for civil liberties);
- the burden of cost of regulation may discourage participants and/or fall on the consumer;
- inconsistencies between groups are possible;
- levels of intent may vary;

- failure to secure acceptance through inadequate consumer involvement;
- the procedures can be used to harm competitors and create barriers to entry.

Achieving Self-Regulation

Traditional methods of self regulation are:

- common consent (an implicitly understood, and unwritten, set of rules agreed between parties)
- guidelines
- codes of conduct/practice/charters (written statements)
- self-regulation within a statutory framework
- contract terms (e.g. Internet service providers' contracts)

Guidelines are recommendations made by specific organisations for self-regulatory rules. They are not obligatory but may be a condition for regulatory recognition of a self-regulatory regime, thereby giving authority and credence to the regime. For example, "It is intended that compliance with the ICC recommended contract conditions (guidelines) should be accepted by the Data Protection Registrar as evidence of satisfactory control over the export of personal data to countries whose data protection regime is not considered adequate."

Codes of Conduct are written statements which announce the position of a particular organisation (or professional body) and have two objectives. The first establishes a set of rules for the members of the organisation (what is expected of them), and the second establishes a standard against which outside parties can assess the organisation concerned (what others can expect of them).

Self-regulation within a statutory framework

establishes a legal framework whereby individuals and organisations engaging in defined activities are required to conform to a 'recognised' code of conduct. The framework establishes guidelines and procedures for obtaining recognition.

Issues Raised by Self-Regulation

Infrastructure

Three US players "carry" over 50% of Internet traffic (however measured) world-wide and "control" over 90% of the desktop access market. The corporate intranet market is similarly dominated by only six groups of players. Over 80% of the traffic which requires switching between ISPs is routed through only five "peering points" (within USA), the balance is switched direct between a small number of ISPs (US owned). Over 80% of Intra-EU Internet traffic is switched between ISPs in the US (intra-EU cross-border leased lines are commonly more expensive than transatlantic leased lines and EU peering points also lack most of the necessary transfer facilities).

Self-regulation in markets dominated by a handful of players needs to be closely monitored by vigorous competition and consumer protection authorities. As said by the UK Foresight panel, "Regulatory focus should be directed at the understanding of the dynamics of the businesses and the implementation of any necessary measure to avoid the abuse of a dominant position.".

Privacy and Data Management

The First Report of the US Government Working Group on Electronic Commerce quotes an opinion poll showing that "81 per cent of American Internet users have significant concerns about threats to their personal privacy while on-line. Of computer users who say they are not likely to access the Internet in the next year, greater privacy protection is the factor that would most likely convince them to do so"

The US has proposed a voluntary privacy regime, but the EU requires its member states to permit transfers of personal data only to countries that have adequate legal protection. A Financial Times report of 1 December 1998 warned that: "This approach is quite different from the US self-regulatory approach and could disrupt personal information flows between the US and EU member countries," This shows the problems of adopting one extreme or the other.

The availability of the Internet, combined with the explosive growth of computing power, enables massive volumes of information to be assembled and processed. This has a great potential benefit for citizens and consumers, but carries with it an increased threat that personal information will be abused. This is an area where self regulation needs to be strengthened by statutory backing, to ensure that corporate multi-national systems operate to an adequate standard in every country in which they are accessed.

Security (data, financial exchange)

The principal components of security that affect the self-regulatory regimes are those of Confidentiality, Integrity and Authentication. All these components may be achieved by the use of encryption techniques, and each can be achieved independently of the others. There is great debate over the degree to which a licensing authority for a self-regulatory regime needs oversight of a) the mechanisms in use; b) compliance with stated and/or good practice and c) access to content for law enforcement or crime prevention.

There seems widespread agreement that authentication by means of electronic signatures can stand alone from other mechanisms. It must, however, be subject to scrutiny for compliance with standards and adoption of good practice. There are issues of legal status and mutual recognition (between systems as well as across jurisdictional boundaries). Similar remarks apply to integrity mechanisms.

The extent to which Confidentiality mechanisms (content encryption) need to be accessible via legal warrant is, however, the subject of fierce debate in many States.

Intellectual Property Rights (copyright)

The EC has already produced a proposed draft directive on the protection of copyright and related rights in the information society, which attempted EU harmonisation of these rights. It is unclear, however, how this directive and the existing copyright laws of Members States will offer protectection against the wholesale pirating of copyright material over networks in general and the Internet in particular.

Therefore, until such time as there are enforceable, legal measures to protect copyright material, and thus a rightholder's/ author's right of remuneration, self-regulation (eg by ISPs' Codes of Practice) and, indeed, self-protection (eg by encryption, scrambling, tattooing, watermarking of copyright material) appear the only realistic means of protection at present.

Illegal/harmful content

At the level of the individual user, self-regulation is often discussed in the context of harmful content on the Internet (usually with reference to pornography, but also to racial incitement). Definitions of what is harmful vary between cultures and nations. EURIM Briefing 19 (July 97) *The Regulation of Content on the Internet*, concluded that self-regulation was currently the best way forward. The Foresight Information Technology, Electronics & Communications Panel (August 1998, Dept. of Trade and Industry) came to the same conclusion.

Making Self-Regulation Effective

To be effective self-regulation needs to address the disadvantages mentioned above, so that:

- groups are given incentives to set up procedures to meet agreed needs and these are implemented and monitored;
- there is co-operation and shared processes across groups serving those with overlapping interests;
- there are strong incentives for all relevant players to participate;
- enforcement procedures are put in place ;
- user interests are properly represented.

Organisations providing self-regulation should be publicly accountable, so some form of external monitoring will

be needed. This should check that they operate to appropriate standards and that suitable procedures exist for complaints and redress, with a requirement to take evidence from outside the self-regulating organisation. Monitoring should also watch out for attempts to use self- regulation as a weapon against existing competitors not included in the "club" or to prevent newcomers entering the market sector.

Competition between self-regulators would, however, have the benefit of forcing improvements in the process of self-regulation.

The use of technology as a means of enforcement is advocated by the European Commission and most western governments. In particular, PICS (Platform for Internet Content Selection), which is a rating software that facilitates filtering or blocking by appropriate software, can be used by groups or individuals to apply standards to web pages

An important development is the potential use of Internet addressing protocols to identify the location of the sender or control the routing/destination of Internet messages. It is therefore possible to screen enquiries received at web-sites to ensure that the responses are compliant with enquirers' local regulations. This could, however, incur significant additional costs for site authors and operators.

The requirements for effective self-regulation can be met with support (both ideological and practical) from government and authoritative bodies (e.g. EU) in the form of: guidelines; standards; support to regulatory bodies (e.g. IWF) - possibly giving legal status; financial help and incentives, including set-up costs and on-going financial assistance.

For self-regulation to be successful, however, that support must be robust and include attention to the co-ordination of enforcement procedures across regulatory boundaries.

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APPENDIX B: 1 "UK views of ethical and spiritual implications of IT"

UK views on ethical and spiritual implications of IT

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Abstract

The UK Worshipful Company of Information Technologists organised two high-level colloquia to debate ethical & spiritual implication of the new IT & Telecoms Environment in 1997. The colloquia were hosted in the UK House of Lords. This paper summarises the debates of those colloquia, and discusses some of the ethical and cultural issues that arise.

1. Background

This paper summarises points raised from two British meetings of self-selected representatives of professional and Christian groups: the issues raised are important, but have a distinctive British establishment bias. However, the meetings were not intended to provide a comprehensive view of the general public of the UK.

This paper offers these concerns to the wider audience at the international Ethicomp'98 conference. Naturally, these views are neither definitive nor comprehensive. We, the authors of this paper are British, and we are reporting on British views about the impact of information and communications technologies in a world-wide multi-cultural context. Our own concerns may strike others as being insightful, parochial, or just idiosyncratic. Nevertheless, we believe that these issues are of concern to people more generally, and we hope that the issues will be of some wider interest, beyond as well as within the UK, and that this paper will stimulate constructive debate. However, we are acutely aware of the limitations of our approach: Britain itself is a complex, multi-cultural society with many traditions, but the meetings we report did not attempt a representative sample, nor did it intend to — indeed, representation is one of the issues (see below).

The Worshipful Company of Information Technologists, which organised the meetings, is the 100th and newest "City Livery Company" (an institution which goes back to the Mediaeval Guilds). Its aims are directed towards educational and charitable activities, and improving awareness and understanding of the benefits of Information Technology, especially within the City of London. It advances its charitable activities through a number of 'Panels' including a 'Religion and Spiritual Development Panel' which organised these colloquia. The first colloquium was held on February 10, the second on October 15, 1997. The first colloquium, but not the second, was held under the Chatham House Rule (points made may be freely reported, but no contributors identified without their express permission). Although some subsequent discussion on the Web has been attributed, and the second colloquium was not anonymous, we have edited and uniformly anonymised all contributions. We take responsibility for our editorial presentation.

2. Introduction

Any serious discussion of ethics will produce diversity of comment. Ideas of "good" and "bad," tightly knitted with ideas of responsibility and justice are intensely personal issues. It is therefore not surprising that the complicated relationships

generated by new technology in the social arena are producing wide-ranging discussions.

In the interests of clarity we have pulled together the main topics of concern and dealt with them under categories relating to a social order. (It is acknowledged there are other possible choices for classification, but as much of the discussion seems to hinge on "the Internet" which has an increasingly social use, this seemed a good place to start.) The categories are hierarchical, beginning with matters related to the personal, or individual level, and continuing through community level, national level, and finally, international level. It should be noted that within these categories the various points discussed are not necessarily in any order of priority of concern. In addition, although the general topic is IT, the participants were, on the whole, concerned with the ethical impact of the Internet, therefore the comments throughout the paper are directed particularly toward those issues.

In addition to raising ethical issues, suggestions were made for initiating steps towards some resolution in the form of regulation. These suggestions have been grouped under the headings of government, church and education, that is, those bodies considered most relevant (because of their resources and/or impact) for the implementation of social behaviour. Self-regulatory measures were also discussed, and are reported here.

The rapid progress of IT, and its equally rapid assimilation into many levels of society, presents a profusion of ethical dilemmas. A useful approach might be to distinguish between old issues in new guises, and specifically new, IT-related issues. We have included a section which proposes that IT has indeed introduced new issues.

The final part of the paper takes an overview of the discussions, and highlights questions arising from them. We also discuss the format of the meetings.

3. Ethical considerations at the individual level

A new form of relationship between the individual and the computer is emerging. The computer is not merely a tool for seeking and exchanging information, but can also be a source of entertainment and social exchange. There is a concern that extended use of the computer in this way could lead to over-emphasis of a virtual world, and to a deficit of physical interaction with the embodied personal world. Two implications from the physical (or "in real life," IRL) versus virtual were discussed.

The first is that boundaries between 'real' and 'virtual' can be crossed easily. The virtual world is designed to give one the illusion of reality. An individual who spends a substantial amount of time immersed in the virtual may come to relate more with the 'virtual' than with the real. If this happens, as-it-were unconsciously, how does that person fit into our concepts of society and its associated codes of behaviour? On the other hand, if the person prefers to lead an existence within the virtual world, consciously choosing to occupy that environment, to what extent have they excluded themselves from the real world? It could be argued that individuals have the right to choose where they spend their time. However, an existence in a virtual world also de-emphasises the actual physical body. A lack of consideration of the whole human being can lead to a distancing-effect in human interaction, and consideration of the actual impact on human beings of our behaviour can be diminished. Consider, for example, the difference between watching a news report from a war zone and actually being there.

The second point refers to use of the Internet for social exchange and interaction. Again, a concern arises when this becomes the dominant social interaction for a person. The individual does not need to physically mix or congregate with other people, and thus expose themselves to a variety of contexts and opinions — not all of

4. Community Issues

An important ethical issue arising at the community level was one of access. Technology is relevant to us all, the Internet in particular provides an opportunity for individuals to participate in the benefits of global sharing of information and communication. If ethics has to do with freedom of choice, then it also has to do with opportunity and responsibility.

In order to utilise their freedom of choice people must have the opportunity, and ability, to choose whether to use this technology. Constraints on opportunity of access are, in the UK: financial, computer literacy and physical ability. Geographically-defined communities are in a position to help overcome these constraints by providing public access (libraries, schools, community buildings). At the community level computer literacy and training refers to adults and can be provided by, for example, adult education classes, parent associations in schools, and libraries. The education of children in these skills is referred to in the following section.

Note that some libraries in the UK provide computers linked to the Internet, but only in some cases free of charge. A minster (cathedral-like church) consecrated in the last few months has a cyber-cafe in the church buildings to build Internet skills.

5. National Issues

National educational policies come from Government and are thus discussed under the national domain. Within this area, and linked to the subject of access, lies the issue of "information rich" and "information poor." Information has a value, not simply financial but also in the sense of power. Lack of information leads to a poverty of choice, and unequal information gives one person an advantage over another.

Concern was expressed that the new technology (which deals primarily in information) could lead to an imbalance within the population, creating a new sub-class of underprivileged, that is, the information poor. Those having access to, and holding information are in a position of power over those without. This situation may be alleviated as time goes on by following an educational policy that raises awareness of the importance of computer literacy.

The accessibility of information concerning individuals — made easier by new technology — raises ethical questions regarding privacy. In the UK recent suggestions to introduce identity cards met with hostility and suspicion; moves to collate databases of detailed information about individuals tend to generate a similar reaction. The issue here is one of power, related to the matter of personal identity. The collation of diverse personal information can build a profile of that person — ranging from age and gender, to political stance, and consumer choices. Experience has shown that personal data held on a computer system is prone to error; if that happens a new but specious identity is created for the named person, based on false information.

We all know how difficult it is to correct information held about us on computer systems. Should we be put into the position where we have to? The responsibility apparently becomes ours to 'prove' our own identity. The suggestion was put forward that at a national level we must generate a culture which respects the use of personal information. In the UK, there is a Data Protection Registrar who has legal responsibility for supervising the licensing of use of personal information on computers, and who has been strongly pro-active in preventing (for example) utilities from using personal information on their consumers for wider direct marketing purposes without the individuals' express consent.

Freedom of speech is considered a precious, and integral aspect of our democracy. The ethical dilemma is "how far does freedom of speech go"? Although in theory we are all free to speak our minds, in practice there are constraints when scaled up to large numbers of the population. The press in the UK practises self-regulation, largely driven by public opinion and peer pressure. There are also laws regarding incitement, libel and slander. In courts of law jurors are forbidden to discuss cases outside the court, in the interests of justice. In the case of the Internet it seems "anything goes," and in any event is seemingly impossible to regulate. In two famous recent cases the identity of 'minors' accused of criminal offences, suppressed by the Courts, were freely available on the Internet.

However appealing the idea of freedom of speech is, unconstrained use of it can be dangerous. An example given was of the partly-failed attempt in Japan to kill a large number of people who were using the underground. The reason for the 'failure,' that even more people were not killed, and the solution to it, was discussed on the Internet, thus offering a means of more effective mass murder to whoever might be interested.

Directly linked to freedom of speech, freedom of information, and access, is the subject of censorship. As previously discussed, the accessibility of pornographic material is legally constrained in the UK. However, with sex sites among the five most popular UK web sites many taking part in the discussion were convinced that regulation in this instance was necessary, although difficult. The Church has traditionally given guidance on moral values, and could perhaps play a part here, although it was noted that the Church did not currently have a great presence on the Internet.

6. International Issues

One of the ethical considerations related to the global nature of the Internet was concerning the side-effects of pervasive systems. Specifically, the potential power available to whoever has the control and operation of the system. These matters are already being addressed in the United States, but it is not impossible to conceive of a situation where one person with enough money could buy control.

On the subject of money, new technology offers new scope and opportunities for fraudulent activities. It was suggested that although this is something to be aware of in an ethical framework, these are not fundamentally new crimes, simply adaptations of old methods. However software theft and information warfare are examples of crimes where there is no physical interaction between the perpetrator and the victim, and may be genuinely new. Already, UK law struggles to cope with non-physical crimes: one theft trial collapsed when the defendants successfully argued that no actual money had been taken from a Bank, 'all' that had happened was that computer records had been altered. How the law would cope with, say, interfering with the software in an artificial limb, in a biosensor or in a memory implant, remains to be seen. The problem is exacerbated by the sense of the erosion of territorial boundaries expressed by the Internet, and hence a loss of traditional controls.

This apparent lack of territorial boundaries also raises questions of sovereignty and democracy — would the technology further the unity of the world or merely confirm the dominance of an elite? Is there, or should there be, a right of "Cyber equity" — each person having access to Cyberspace?

7. Possible routes towards regulation

It was acknowledged that regulation of new technology operating on a global scale raises difficulties. Having said that, some steps could be initiated on a national level

using existing influential bodies — these being Government, Church and relevant professional organisations.

The Government could play in part in formulating new acts of communication and education. The distinction was made between the benefits of "access to it all" in contrast to "access to them all." That is, the advantage of access to information by individuals without the invasion of privacy (either caused by unwanted marketing or previously discussed personal information held on databases). It was suggested that information providers might welcome a legal definition of their role in order to push the barriers. Also within the Government domain it was felt a policy of encouraging competition was important to provide the consumer with choice, thus keeping prices down.

The question was asked whether there should be one body of focus within the Government. Currently many of the concerns discussed above fall under different Government departments, for example, the Home Office (obscenity, privacy, data protection), Cabinet Office (freedom of information), DTI (Department of Trade and Industry; IT), and the D*f*EE (Department for Education and Employment; National Curriculum, IT in schools). Perhaps it is time to have a unifying committee with some overview responsibility for these related issues. The development of the bio-ethical framework in the UK had been greatly influenced by the Warnock Committee in the early 1980s which gave an overview report on a range of related issues; was there a need for a similar overview on IT/Telecoms-related matters?

It was thought that there was an opportunity for both the Government and the Church to help create a sense of balance, providing guidance and help for people at a time of great technological and social change. These are influential bodies who could take steps to generate a culture which respects the use of personal information. One Christian body is investigating the possibility of a charter to guide Christian use, but they also have the potential to provide deep analysis of the moral and ethical questions raised by the Internet, perhaps providing a "theology of information." The Church has a long history of involvement with physical community. Not everyone agreed: some argued that the Church had dominated earlier communication technologies (such as printing) because it could read, but that now it is in a situation where it can't read and is irrelevant. Of course there are some highly IT-literate Christians: the Church of England, for instance, has recently formed a Committee to write a report on IT-related issues involving three Christian Professors of Computer Science, and a representative from the Roman Catholic Church.

There is great scope within the field of education to teach people (including children in schools) how to use computers to benefit from them, and at the higher education level to teach "ethical systems engineering." A start has already been made in this area, though we note that most of what is called "ethical" is in fact Western business, corporate and professional codes of conduct.

8. Alternatives to regulation

Some people advocate self-regulation of the Internet, to this end suggestions were made that self-development, leading to a sense of individual responsibility, should be encouraged. It is also help for people to think how they want to use the new technology — again it was suggested the Church and Government could provide useful foundations. At a practical level digital signatures were proposed could help users to filter unwanted correspondence.

9. New Issues

On the subject of whether there were any new ethical issues emerging with new technology several items of note were made. At the technological level, cryptography provides security of information, but the question of third party involvement raises concerns of trustworthiness. In addition, encryption is considered nationally sensitive, on a par with national security. Very little seems to be understood about the wider implications of public key cryptography, and that it can support new forms of interaction between people.

At a more abstract level, national identity, and traditional concepts of sovereignty and democracy may also be challenged by the universal nature of the technology where physical boundaries become invisible. In the virtual world new concepts are called for: we are seeing the introduction of unphysical interactions leading to unphysical crimes. (Though "unphysical" crimes, such as blackmail and libel, are well-established.)

Relationships between employer and employee, in particular expectations of commitment, may need to be addressed. Technological facilities are being provided enabling work to be carried out from any location at any time, as a result work infringes on personal time and space. Are employers expecting full time commitment, or at the least, are employees under pressure of unspoken expectations? How will this impact on family and social life? Will new technology provide a means of employment (and income) beyond the traditional retirement age? If that is the case, then traditional methods of economic forecasting and analysis which is based on currently unproductive sections of society will need to be re-appraised.

Finally the speed of technological advancement provides challenges to traditional methods of control and legislation. Legislation in a democracy is a lengthy process. Effective discussion and debate, analysis and optimum methods of enforcement, all take time — with new technology "time moves fast."

10. Notes on the Colloquia

This section outlines a few of our personal views.

10.1. Representation

A serious problem arises in discussing ethical issues of IT: the natural selectivity of people. The Internet brings together an enormous number of people, and raises an enormous number of issues and situations. However, as humans, we naturally accommodate to common behaviour. Our awareness and attention are drawn to unusual situations. Therefore there is a tendency to discuss infrequent, as opposed to representative issues. Moreover, we read and watch media that — by their nature — draw unusual situations to our attention. We become familiar with the reported situations, and in any group discussion there is a shared familiarity, which tends to lend the situations an increased significance. Because the media typically reports controversial incidents, in most discussions their apparent statistical significance will often become inflated. Some issues may seem important because of their salience in the shared consciousness of the participants (who all consume essentially the same media), rather than because of their actual importance to the community.

In an ideal world, perhaps the media would report important rather than exciting issues! Therefore, to make useful (as opposed to sentimental) progress, care should be taken to distinguish perceived salience from actual occurrence. Some things we worry about may objectively have low risk.

Any debate of socio-ethical issues depends on the ethical frameworks adopted: for example, on a utilitarian view discussing frequency is central, whereas on an absolutist view discussing specific situations regardless of frequency is appropriate. The Colloquia happened in the House of Lords, which (as a legislative chamber) arguably has a bias towards the prescriptive, though this was not mentioned.

Getting agreement on ethical pre-supposition is clearly a difficult task, and the chairman of the second colloquium raised the point that a Church perspective is not necessarily a majority view. In many ways, "ethical implications of IT" is a frighteningly young area — given the rapid assimilation of IT into society — and much has to be done. A consideration of the spiritual implications is even younger. We believe that further debates with explicit encouragement to try to lift the particular to the analytic could be valuable. If so, it could be useful to have professional moral philosophers and sociologists attending.

10.2. Organisation

The organisation of the meetings affected how successful they were.

Both meetings were held in committee rooms, which were organised on a level floor with a top table for the chairman, speakers and other officials (e.g., secretaries). The chairman introduced the meeting, then two pre-chosen speakers (one Religious and one Industry) made brief presentations of about 20 minutes. The chairman then opened the discussion to the room. Speakers responded to questions or points raised, however as the meetings progressed, and time began to run out, eventually several points would be taken from the audience at a time. Finally, the speakers were given an opportunity to summarise, and the chairman concluded.

Both meetings were followed by meals, and discussion continued at separate tables, of about six people. There was no attempt made to summarise these separate discussions to the whole meeting. The number of participants at the meal (about 40) and the timing meant that very few people (with the exception of the top table) had more than one opportunity to contribute.

The first meeting had two well-prepared speakers who made almost-opposing points. The audience responded to those points, and by-and-large had a focused discussion. The second debate was apparently driven more by participants' prior concerns. More people read from notes, and although a wider range of issues was raised, there was — in our opinion — less real communication. In the second meeting, there was less discussion between participants. There was some overlap between the participants of the two meetings, and possibly familiarity with the meeting format the second time around also helps explain the difference.

Any such meeting has to find a delicate balance. Participants want to contribute their expertise and ideas, some will want to learn or engage in debate. Is it better to collect diverse ideas, or to have a debate where people change their minds, and perhaps, at the end, there are fewer ideas represented?

11. Conclusions

If technology can't solve problems, why should we think ethics can — after all, aren't both human constructions?

- We never really see the limitations of our own ethical frameworks, because we live within our own paradigms and do not see the boundaries. The views expressed in this paper originated from members of the UK. Are these points distinctly British, or do they reflect more general issues? Are there cross cultural issues not visible — and not visible in the UK — until now? The Church was

heavily represented in the meetings: are references to its influence more widely shared in the UK, and is the concern about the influence of the Church just a British issue?

- Technology is so easy to separate from humanity. Ethics goes against this, by explicitly asking about rightness, not just whether something works. That things can be done does not mean that they ought to be done; moreover, that technology allows some things to be done on such a huge scale as if they were a significant part of human activity does not mean that we ought to accept them — confusing *de jure* with *de facto*.

It is clear that new technologies are pressing existing — sometimes fundamental, sometimes merely sentimental — boundaries of right and wrong. The way these issues are resolved will have an enormous impact on future society. We believe that there has been very little inter-cultural discussion that relates to the issues. Arguably, most previous conflicts of "pure thought" in the world's history have led to physical conflict. We are now living in a society where the scale of potential physical conflict is mind-boggling, should anyone wish to initiate it, and where the number of participants in cyberspace is the largest ever gathering of people the world has ever had. The statistics, then, are against us, and the urgency of establishing effective and practical ethical frameworks of IT is obvious.

Reference

The Colloquium website contains all the publicly available material about the two colloquia, including the addresses of the Bishop of London and Steve Shirley (the keynote speakers in the first colloquium) and summaries of all the discussion. Further contributions are welcome. The Colloquium URL is:

`http://www.btinternet.com/~nbch/wcitcol.html`

Justice and Design

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ABSTRACT Within the field of HCI there are a number of preferred approaches towards design. As within other disciplines, these approaches are often irreconcilable. We explore the possibilities of using ethics as a way to bridge the gap and re-establish the design focus of doing good towards the user. This is the idea of "justice" to aid improved design. According to Aristotle, justice is classed as a virtue: to do justice is to act for the good, which is what is wanted for good HCI design. John Rawls' classic "A Theory of Justice," (1971) talks about justice as fairness, and it is in this context we apply justice to the area of design. We show some surprising links with HCI practice, and hence suggest some new perspectives on HCI.

KEYWORDS Ethics, Justice, Veil of Ignorance, Design.

1. INTRODUCTION

This paper introduces the concept of justice to the area of design. HCI is concerned with making things better, improving usability and making interactive systems (for one or more people) better.

Aristotle defines justice as doing good for others (Nicomachean Ethics). This is essentially what HCI is: doing good for others through the interactive systems designed and imposed on others' lives and work. Aristotle warns that justice is the only one of the virtues that can be accidental: that is, justice can be achieved unintentionally (unlike integrity, for example). This paper, then, can safely argue HCI is like justice (in ways to be elaborated). However, the fact that this has previously gone unnoticed is not a counter-argument to ours.

Following John Rawls (1971) idea of justice as fairness, we explore the notion of system design from the point of view of an "original position" of equality. From this ethical perspective, (the core concept being the "veil of ignorance") the designer adopts the standpoint of *unspecified* potential users. From an HCI perspective, we see the veil of ignorance as corresponding to the principle that designers should know the user and not design for themselves. Ideally, they should design for people they know they do not know (Thimbleby, 1998).

Computers are complex systems, and so are humans, the design of complex systems for complex systems can lead to complex design procedures. Where design approaches and methodologies differ "fairness" in design provides a simple ethical foundation of certain principles, which are commonly understood and promoted within our culture. We begin the paper from this standpoint, examining the concept behind the Rawls Theory of Justice and explaining how the principles of liberty

and equality are derived from that concept.

As far as these principles are important to us as members of society, they should be equally important in our work, especially when that work directly relates to, and impacts upon, other members of the society to which we belong. This is of course not a novel ideal within the design arena (e.g., on the subject of Information Systems Design, see Hirschheim *et. al.* 1995; on social/democratic design context, see Feng, 1998).

The impact of software on others is recognised by Collins, Miller, Spielman, and Wherry, who not only include the buyers and users of the software, but also recognise "bystanders who fall under the shadow of the behaviour of the software" (Collins, *et. al.*, 1994, p.81). Their article (based on a case study) used a Rawlsian approach, emphasising responsibilities and obligations during the initial negotiation period of the design proposal. In this paper we are particularly interested in the suitability of Rawls' theory to the field of design, with the emphasis on "being fair to do good," following Rawls's two principles of liberty and equality, arrived at from the veil of ignorance.

We finally assess the advantages and disadvantages of Rawls' theory as an aid to good design, and offer some practical ideas on implementation.

2. THE RAWLS THEORY OF JUSTICE

The Rawls theory of justice emphasises justice as fairness, arriving at two fundamental principles — liberty and equality. This theory is intended for application in a political sphere, and as such addresses social, rather than individual, ethics. The essential idea is of a social contract — the key elements of the Rawls theory are "the original position" (the veil of ignorance) and the two principles of liberty and equality.

2.1. The original position

Rawls uses this idea to provide a justification for the basic principles, which constitute his theory. The strategy aims to disassociate the individual from preconceptions and prejudices by adopting a starting point (original position) of "ignorance." From this position, the individual is free to perceive the world from any potential vantage point — unencumbered by inherited social status. Thus the original position is a device for ensuring an equal starting point, and from this point the individual perceives the world through a veil of ignorance. This gives the basis for entering a fair social contract.

The next stage is to construct the contract in such a way as to ensure a fair outcome. This, according to the Rawls theory, is best achieved by the parties concerned imagining that they could be at any potential "receiving end" of the contract. So, for example it would be unwise to devise a contract that benefited, say, the homeless, at the expense of the property owner, if you were to become the property owner. As Dworkin (1977, p.181) says, "Men who do not know to which class they belong cannot design institutions, consciously or unconsciously, to favour their own class."

For institutions, read systems: in HCI, designers create systems (for example, software systems or physical devices). These systems become embedded within the users' world, and constrain what those users can and cannot do. They are social institutions, not enforced by law or convention (as Rawls conceives it) but enforced by design. For example, a hardware device (say, a mobile phone or video recorder) is unalterable by the user, an aircraft flight management system is far too complex for a pilot to change (and, yes, there are social conventions that stop pilots tinkering with the aircraft software!) Thus to design means to create a "world." To design a good world is to act justly. Following Rawls, one should design the good world acting under a veil of ignorance. To do otherwise allows the designer to create a special world in which they are treated beneficially, typically at the expense of others.

According to Rawls, "The original position is defined in such a way that it is a *status quo* in which any agreements reached are fair. It is a state of affairs in which the parties are equally represented as moral persons and the outcome is not conditioned by arbitrary contingencies or the relative balance of social forces." (Rawls, 1972, p.120)

2.2. The two principles

It is Rawls' argument that a search for basic principles to underpin a social contract, from the perspective of the veil of ignorance, must result in the two principles of *liberty* and *equality*.

- The *principle of liberty* ensures against persecution, discrimination, and political

mass production) is not geared to minority groups (very often the less advantaged).

- Designing from a veil of ignorance requires designers to "imagine" all possible users — an unlikely, if not impossible, scenario.

- Is it even desirable to design an artefact for all possible users? A design that is easy to use by everyone may not provide any satisfaction for anyone. Reeves and Nass (1996) suggest that computer systems have personalities, and a "generic" personality would be disliked by everyone; better, they say, to create a distinctive personality, which is at least liked by *some* users!

- It is arguable whether it is even possible to design an artefact for all possible users. (For example, special efforts will have to be made to design international user interfaces that work in other cultures.)

- The theory is not viable in some areas of design. (For example missile design; you would design a missile very differently if you were to imagine being at the receiving end.)

To summarise, on the advantages side we have some principles that equate to a democratic approach to design, but there are disadvantages in the practical application of the theory. How far should a social contract for design go? Depending on one's politics, one might asseverate Rawls and claim missiles are wrong; or you might say we need missiles, and there are some circumstances where Rawls is inappropriate. (See also §5.)

Finally, there are difficulties with taking Rawls too seriously. There are duties of just action to non-contracting parties, such as to the environment. How we design things to take their responsible place in a larger ecosystem beyond other users, say to be recyclable, is beyond the scope of this paper — but that is not to imply such issues are optional; see Borenstein (1998) and IIE Solutions (1999). Rawls is but one approach to justice, and (for many moral philosophers) is by no means the last word. It seems likely, then, that the approach will not be sufficient for all purposes in HCI.

5. PRACTICAL APPLICATIONS

The Rawls theory of justice makes a nice match with HCI, but can this insight be used creatively or constructively to actually improve design?

Abstract theories and discussions help to highlight issues, but what of the practical applications? Although the "ideal" implementation of this theory in design is unlikely, if not impossible, the basic principles could be incorporated within a design policy. A starting point might be a simple check sheet addressing

- The principle of liberty (does the design "persecute, discriminate, oppress" the user?)

- The principle of equality (does the design address issues of equal access/opportunity/use, or redress inequalities of access/opportunity/use?).

- Have specific user-assumptions been built in?

We now give some more concrete examples.

Returning to the missile example: suppose someone wished to design ballistic missiles. If they design them under a veil of ignorance, then they are supposed to be creating a world in the future where the missiles exist, but where they do not know what roles they will have. Well, they may end up living in the cities targeted by the missiles. Since most designers probably would not wish to live under the threat of being hit by a missile, they should not make them. Of course, in reality, the designers are affiliated to a particular country and they do not consider it *likely* that they would live in their own country's enemy's territories. However, the Rawls conception does not admit "likely" — because it is a possibility the designer should account for it. (The relationship between missile design and HCI is mentioned in Thimbleby, 1997.)

It is widely recommended that software writers should include comments in their programs. This advice is often strongly resisted, because when one writes program code, it is obvious what it is supposed to do, and a further explanation seems tedious. Yet in the future, the programmer may be a different person. How would the original programmer like to be the future programmer and not have the privileged insight into how the code is supposed to work? More to the point, in the future the programmer may have forgotten what was going on — in a sense they will be a different person (their mind will have changed). Thus by acting fairly under

the veil of ignorance, a programmer would anticipate that the people reading the code in the future world where it exists might not have the benefit of his or her timely insights. Comments would help!

When a sweet bar has to be divided fairly between two people, a standard approach is for one person (*A*) to divide the bar approximately into two equal halves. The other person (*B*) chooses which ever half they prefer. The intention is that *A* will not cheat, because if *A* does so, then *B* can take the larger piece. This is a good example of creating a world under a veil of ignorance. Person *A* must create a future world, and there are two possible worlds, "*A* has this piece" and "*A* has the other piece" — the protocol of the sharing ensures that *A* cannot guarantee which of these worlds they will end up in. They are under a veil of ignorance, so they tend to promote equality — by making the pieces as nearly equal as they can, thus whichever world they end up in (owning one piece or the other) they end up as well off.

It would be very interesting to pursue sharing algorithms in the context of CSCW and of sharing resources between users. For more details of sharing algorithms, see Robertson and Webb (1998).

Fair sharing is a nice example of using Rawls to promote justice in a practical way. It should be considered an existence proof that there are (interesting) ways in which Rawls can be used to achieve practical and just ends in design.

Now consider a directly HCI example. A typical designer creates a product, and can be certain that in the new world where that product exists they will still be the designer of that product. They are therefore in a privileged position; they will know how it works, and all of its curious features will be "obvious." Now consider a Rawlsian designer. They design a similar system, but being under a veil of ignorance, they do not know whether they will have the designer's insight into that system. Indeed, they may be on the product support team, having to explain the system to irate users. Or they may be the technical authors who have to explain the system in plain English. Or they may be the pilot who has to land their aeroplane in fog.

Finally, consider the "oracle effect." (Oracles are standard computing science devices. See, for example, Thimbleby, 1990.) When a user complains that they do not know how to do something, some expert typically condescends to tell them that "it is obvious" — that doing something trivial (like pressing the twiddle key) has the appropriate effect. This is trivial knowledge, but the (ignorant) user had no way of finding the fact out. An oracle was needed. Without an oracle, the system is unusable. With the oracle, the system is trivial. Thus users are often made to feel stupid, because they do not know trivial facts. In a Rawlsian world, designers of systems would have to be more careful, because they have to consider how to design systems where they would not have access to the oracular knowledge. Probably, they would design their systems to be more self-explanatory.

Since programmed systems are intrinsically complex, it is inevitable that the designer (or at least the programmers) have oracles into the system's detailed behaviour. Thus, we see an application of Rawls's "difference principle."

6. "METAHCI"

Thus, creating systems for other people to use, which is the concern of HCI, can be conceived as an act of justice. Rawls has a particular conception of justice that makes a fruitful correspondence with HCI practice. Moreover, there are alternative conceptions of justice (for example, utilitarianism): we might suggest that some disagreement in HCI methodologies would be fruitfully related to the great ethical traditions — that is, if after several thousands of years, ethics has not reconciled itself to a single point of view, then HCI is unlikely to reconcile itself to a single view, whether social, computational, psychological, phenomenological, or otherwise. All represent (in ways we do not have space to explore) ethical conceptions, and each suits particular agendas. HCI, then, we can surmise should take a "metaethical" stance: *metaHCI* is the study of choices in HCI.

What is metaHCI? Some people in HCI consider that any valid contribution must involve empirical evaluation with users. Not to involve users would seem to them to be anathema to the ideals of HCI. This might be equated with utilitarianism: what is the greatest good for the greatest number — and can it be measured? Or we might view HCI as a creative discipline, where expert designers use their artistic intuitions to create new innovative systems — this might be equated with virtue ethics. Our analogies are not intended to be close, but rather to suggest that doing good (in the ethical sense) is as complex as

doing good (in the HCI sense), and that the great traditions of ethics have not reconciled themselves — but instead lead to higher-level, meta, debate. HCI may well be enriched by taking metaHCI seriously.

7. SUMMARY

The hypothetical model of a social contract brings an explicit ethical focus into our working world. Is such a contract applicable in the area of design? We believe that the notions, arguments and concepts presented by Rawls can be applied to the area of design, and that the resultant outcome is as beneficial to the "user society" as Rawls implies it would be to the "political society." Politics refers to "rights" — in a design context does the user have rights? If so, according to Rawls' theory, the notion of equal rights comprises not only the right to equal treatment, but also the right to treatment as an equal.

Do designers of things act justly by the Rawls definition? Mostly not. They design things they know they will not use, and even if they did use, they would have oracular knowledge. Designers are *never* in a veil of ignorance. Many programmers build systems that they have no intention of using. If, instead, they worked under the Rawls veil of ignorance, they might try harder — in case they ended up being a user of their system. If they were programming a tax program, they might end up "born as" accountants, tax-payers, civil servants designing tax law, tax evaders, auditors, managers, as their own colleagues having to maintain their system at a later date, or even as the manual writers — they would have to design their tax program carefully and well from all points of view.

Perverting the course of justice is one of the most serious crimes. Perhaps if HCI was seen as a primarily ethical discipline, pursuing the good, and employing justice, doing HCI diligently would be seen as the serious discipline that it is. To do HCI well is to improve human life.

Acknowledgements

Diane Whitehouse and other members of the IFIP WG 9.2.2 made many valuable suggestions after a presentation of these ideas at Namur, 1999. Nick Merriam suggested some of the algorithmic approaches to justice.

This paper has in part been funded by the EPSRC.

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2 CONCEPTS

2.1 The function of concepts

The "unique" features described by the various authors in section 1.1; policy vacuums, conceptual muddle, speed of change leading to an ethical vacuum, new twists on old issues, attempts to find analogies; show the weaknesses of our existing concepts. Good concepts have a good match with the way the world presents itself to us, and should be useful. Cognitive science tells us that concepts are an abstract representation of the external world, which we use to understand and explain our environment. Concepts then, like hypotheses, have explanatory power.

Does the concept we have of the Internet adequately explain the environment we have constructed? What concept do we have of the Internet? Is it a computer network, a broadcasting medium, a publishing medium, or a communications medium? Is an Internet Service Provider (ISP) an agent, or a publisher?

The Internet has a broad range of functions and concepts may vary according to which function is being used. For some purposes the concepts used may be sufficient for the user. For some groups the general concept of the Internet as an interactive communications medium, or as an information source, is possibly quite adequate, as for example those users who simply want to email a friend or colleague, or search the World Wide Web for some piece of information. This description fits the course of events as they occur whilst "communicating" or "surfing". For other groups, technologists for example, the Internet is more likely to be represented as an interactive computer network, with the emphasis on physical connections and programming codes etc., and what they perceive it "as" explains how it behaves. That is, for this group there is a good correspondence between what it *is* and what it *does*.

However, there are levels at which these concepts are not adequate; ethics is one of them. Marcus Peschl describes the goal of concepts as providing us with "relevant information and representations for *generating adequate behavior, making reasonable decisions*, etc." (1999, p.208) (my italics). From an ethical standpoint, if we ask the question "Does our concept of the Internet provide us with relevant information and representations for generating adequate behaviour and making reasonable decisions?" the answer seems to be "no". In an ethical sense is our concept of the Internet "*useful*?" Apparently not.

The Internet (including the World Wide Web) in conceptual terms is not simply an amalgamation of previously separate sectors of industry (such as publishing and telecommunications). The combination reveals properties which need to be taken into account. Our current concepts of the Internet are not rich enough to encompass the ethical life we are used to in the "off-line", interactive world we inhabit as social creatures.

2.2 Ethical relevance

Deborah Johnson (1985) asks whether computer software is a product, a service, the expression of an idea, a process for changing the internal structure of a computer, or a series of "mental steps" and not appropriate for ownership? We can ask what is email? Is it private or public property? Should we have the right to use strong encryption to protect our privacy? If law enforcers are justified in having access to this type of communication what model is appropriate - the postal model (i.e. interception) or the telecommunications model (wire-tapping)? Is a new model

required? How we describe computer software is relevant to questions of ownership (and therefore theft) and responsibility (and by implication, accountability). The terms Deborah Johnson uses are consistent with terminology relevant to existing legal models. Whether computer software is a product, a service, an expression of an idea, or a process, has financial as well as ethical implications.

It is natural when faced with something new to attempt to fit it to a familiar concept. How else can we understand it. It is reasonable to attempt to interpret the Internet as an amalgamation of publishing, broadcasting and telecommunications. These are the terms we are used to dealing with, of which we have an understanding (a concept, or model). Moreover, these terms refer to models which incorporate an "ethical infrastructure". By “ethical infrastructure” I am referring to the accepted practices, codes, and sanctions which result in more-or-less standard expectations of all those concerned (e.g. users, providers).

The email user, for example, may have a concept of email based on an analogy to the postal service. In this case, sending email is much like sending a letter, but faster. This idea is captured by the new expression "snail mail" which has come into play since the introduction of email, and refers to the physical postal service. However, there are certain expectations inherent in the postal service, namely security and privacy, which do not apply in the Internet context. Although these "off-line" expectations are not guaranteed (i.e. it is considered inadvisable to send cash through the post), for communication purposes the rule generally holds. Customs and laws support this belief. In the United Kingdom it is illegal to tamper with mail. Things change when we apply this concept to the Internet. The uninformed user expects the same rules to apply, that the contents of an email are private between the sender and recipient. This is not the case, and tensions have arisen (particularly in the workplace) as to whether, and how far, privacy should be extended to the content of email exchanges.

Another example of established conventions and controls can be seen in the case of the publishing sector, which takes into account issues of copyright and responsibility. There are controls in place to restrict unlimited copying of material and plagiarism, and established boundaries concerning the acceptability of certain publications. In addition, measures are taken to protect children from pornographic material. Similarly, those involved in broadcasting have established boundaries (for example, there is a requirement in the United Kingdom that certain programmes, deemed unsuitable for children, are broadcast after "the 9 o'clock watershed"). The publishing, broadcasting and telecommunications sectors have "worked through" their ethical responsibilities, and are now familiar models with “ethical infrastructures” in place.

Ethical infrastructure provides the means of encouraging, or discouraging, certain types of behaviour. The Internet, although a combination of all the above (publishing, broadcasting, telecommunications) sectors of industry, challenges the controlling mechanisms previously adopted. The legislative reach must now be global, and all users can in principle be independent providers of content, for example. The models we already have in place are not adequate to meet the challenges the Internet poses. The Internet, although similar to the models described above, has additional properties such as personal interaction, and uncontrolled accessibility, which make a difference to the methods of protection established in other media.

2.3 Changing concepts

Drawing once more on ideas from cognitive science, similarities can be seen between our attempts to "get to grips" with the Internet (from an ethical point of view) and the processes associated with gaining new ideas (i.e. creativity). Johnson-Laird (1993: p.255) gives three characteristic properties:

- to create we must begin with some building block, some known starting point.
- the process has no precise goal, but only some pre-existing constraints, or criteria that it must meet.
- a creative process yields an outcome that is novel, and not constructed by rote or by a simple deterministic procedure.

Although Johnson-Laird's project is to provide useful criteria for the assessment and understanding of creativity (applied to computer creativity), and is therefore useful for making assessments in "hindsight", the steps describe a beginning, middle and end, implying a sequential process.

Margaret Boden follows a similar process of development, emphasising the extensive use of analogy during the mental move from old ideas to new, and notes the requirement of understanding and explaining the novel phenomenon. She states: "the use of the familiar frame to prompt inquiry aimed at developing the novel (and initially often more sketchy) frame in an economical fashion" which "enables one not merely to gather new factual knowledge about the novel phenomenon, but correlatively to *understand* or *explain* it, by relating it to the concepts already accessible in the familiar frame" (1987: p.236).

Figure 3.1 (below) shows the stages in the development of novelty as suggested by Johnson-Laird and Boden.

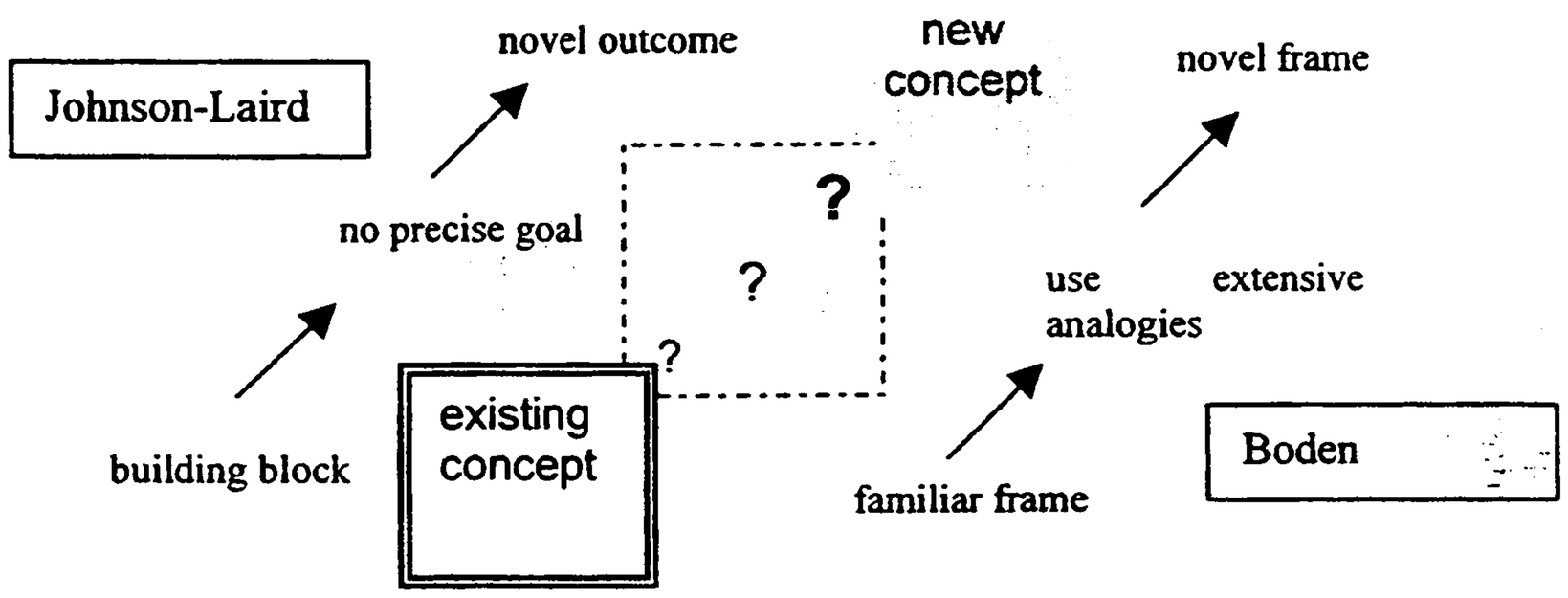

Figure 3.1 - the stages proposed by Johnson-Laird and Boden.

I have discussed changing concepts and the fact that the Internet is a new entity which we, as users in a new environment, have had difficulties in conceptualising (for the purposes of applying ethics). That is in matching existing ethical infrastructures to this new environment. There will be, and there will *need* to be, conceptual adaptations to the Internet environment. The process is already underway. Other authors are also suggesting new concepts which might prove more useful in an ethical way. For example, Jeroen van den Hoven suggests a "revisionary conception according to which claims to data protection or to constraints on access to personal information can be identified on the basis of the types of moral reasons for such claims" (1999; p.33). (His proposal is elaborated in the following section).

Figure 3.2 shows how computer ethics has been attempting to find a conceptual "foothold" via the use of analogies, and how attempts to categorise the Internet based on existing models fits the processes described by Johnson-Laird and Boden (Fig.3.1).

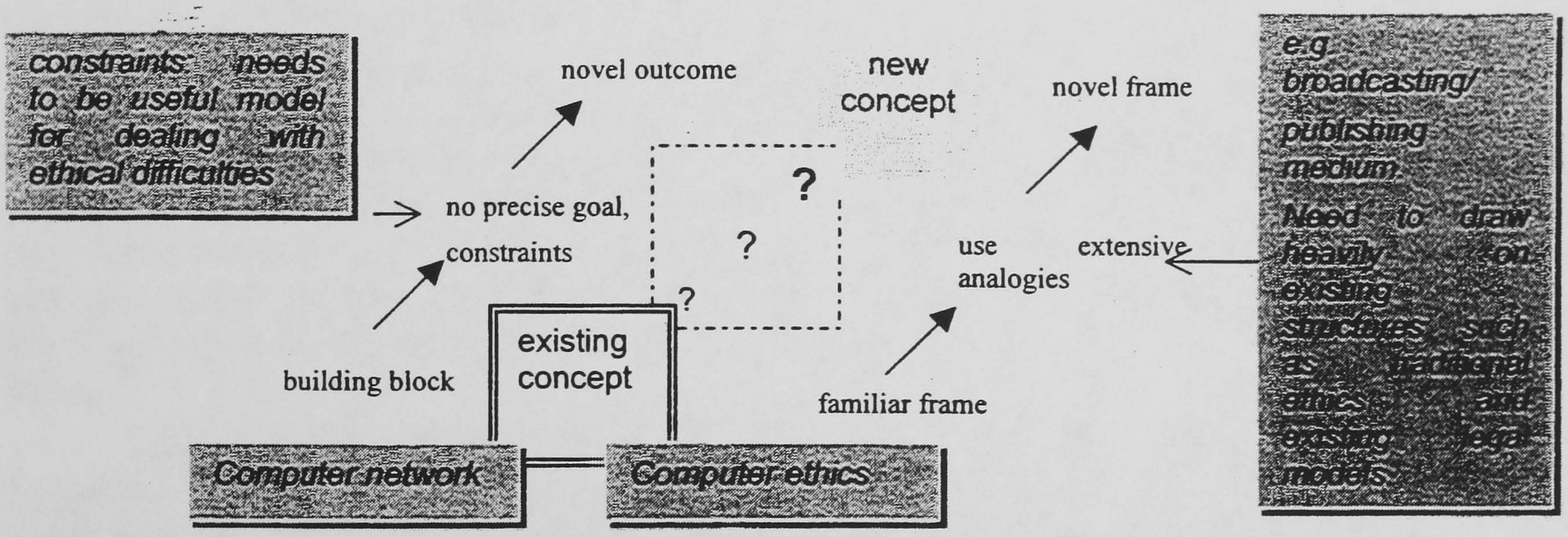

Fig.3.2 – mapping Internet ethics to changing concepts.

3 CHANGING ETHICS

As discussed at the outset of this document various positions have been taken by authors in the field of computer ethics regarding the call for a new ethics. Exactly what is meant by this is unclear, and what type of new ethics is equally unclear. What can be said is that any such change would involve a process of adaptation of either moral norms and conventions, or a change of perspective (possibly both).

Norms and conventions are important ethically because they acquire a moral force which helps people and communities realise "morally relevant values, ends and purposes" (Nissenbaum, 1999). Moral norms and conventions do change over time - they are not "set in stone". As Helen Nissenbaum states: "over time, however, norms - even those that are for the most part successful - may change, evolve and develop in response to a range of precipitating factors" (ibid., p.51). The reference to norms in this case is with regard to the norms and conventions regarding academic publications in the context of electronic publishing. She notes the value of priority in establishing ownership of ideas in the scientific research community, and addresses the "puzzle" of how traditional methods of scientific publication can be adapted to the new context of the electronic sphere: "the puzzle of priority is a symptom of the need to adjust

entrenched norms in response to changes brought about by electronic publications" and further "in this case we shall not have the luxury of waiting centuries for new norms to evolve, but will need to take explicit and active steps to adjust them to the new context" (ibid., p.52).

What lies behind the above puzzle, is an aspiration to protect the values held in the scientific research community - values which have been upheld by the norms and conventions regarding academic publication, such as peer review and "blind" refereeing. These strategies were put in place to assure certain standards (originality and quality), and to ensure impartiality (held to be of primary importance ethically as a condition for objective judgement).

Ethical theories can either explain why we should be moral, or be used as tools in justification of a particular moral stance, or decision. Currently computer ethics uses the traditional deontological or consequentialist ethical theories to justify a certain course of action, or to help in a decision making process (where decisions are made based on values, or priorities).

The perspectives we are currently working with are to do with good and bad, right and wrong, duties and obligations, and justice and injustice. Simplistically, these perspectives can be represented by virtue ethics (Aristotle), the greatest good (or happiness) for the greatest number (utilitarianism), deontological ethics (e.g. Kant), and social contracts (e.g. Rawls). I shall argue that the perspective of ethics has changed, in the context of the Internet, to one of protection – still morally justifiable, but we need to be sure what it is we are in fact protecting (moral or commercial values).

Fundamentally, the discussions and debate regarding the ethical dilemmas raised by the Internet, manifest a social concern for protection; the protection of values and protection against harm. For example, privacy protection, data protection, protection of the right of freedom of speech, protection of copyright and intellectual property, and protection from offensive material. Computer ethics literature is littered with references to "protection" (see e.g. Johnson, 1985; Redding, 1996; Resnik, 1996). In his essay on privacy and data protection, Jeroen van den Hoven claims that the basis of our concern for privacy is not so much a desire to be "left alone" or be "private", but that we "want to prevent others from wronging us by making use of knowledge about us." In other words, we want to be protected from harm. He distinguishes four types of moral reasons in justification of data protection, as follows:

- information-based harm,
- informational inequality,
- informational injustice, and
- encroachment on moral autonomy.

This justification, according to van den Hoven, is based on the values of "preventing harm, achieving equality of opportunity, realising justice and safeguarding moral autonomy" (1999; p.35).

This “new” ethics is not a change in our beliefs about right and wrong – the foundation of ethics – it can be better described as a change of perspective. The definitions being sought in the realms of programming and software, data, and the role of established notions such as intellectual property, are not being investigated to help

us in moral decision-making, but to justify what we already believe – that is, what we have already decided upon.

4 CONCLUSION

What we are seeing, then, in these discussions and debates concerning computer ethics, and in particular the difficulties currently experienced with the advent of the Internet, are attempts to transfer the protections already in place in our social world, to the "new social world" of the Internet. Protection against the threats of invasion of privacy, constraint of freedom of speech, corruption, etc.

In a world containing an ethical viewpoint there is, by definition, both good and bad and right and wrong. Society uses an ethical infrastructure to promote good and discourage bad, and protect against harm. The infrastructure we already have in the "off-line" world established as a protection, consists of face-to-face interaction, peer and social pressures to conform and behave in socially acceptable ways. The "off-line" world also has constraints which make it difficult to behave otherwise. For example, making copies of other people's work is time consuming and expensive, privacy is maintained by physical barriers, as is security. It is more difficult to "get away" with unacceptable behaviour, and on the whole, we are more directly faced with the consequences of our actions.

These things are missing on-line (see Johnson, 1997), and what we are currently seeing are attempts to compensate for this lack of "ethical infrastructure", by whatever means we have at our disposal, which at the moment is technology (e.g. filtering software, cryptography) and regulation (self regulation and legislation).

If we take the notion of the instantiation of ethical values for purposes of protection on the Internet then we can see the relevance of codes of conduct and regulation in an ethical sense - furthering the protection of people and values. Rather than attempting to reconstruct existing ethics, or what works in the "real world" to the Internet, we could look to see what is needed in the way of measures for protection. We can then determine to what extent this is possible. Using the notion of protection gives greater leverage in assessing the best controls to put in place: the answer to the question "what is it we are trying to protect, and why?" can perhaps give a better insight into the moral actions we should take in adapting off-line ethics to the on-line environment. The biggest difficulty in addressing, and solving, a problem is acknowledged to be that of asking the right question.

The question itself is a relevant one (as we have seen in the notions of privacy protection, data protection, protection of the right of freedom of speech, protection of copyright and intellectual property, and protection from offensive material mentioned above) and the answer to this question will reveal motives (which may or may not be morally worthy), and allows a freedom to make decisions and choose a course of action with a moral justification if we so desire. That is, the question makes explicit the values we wish to promote and encourage.

This paper advocates a change of emphasis: making the notion of conceptual change more explicit not only provides a justification of the difficulties we are encountering, but in so doing it takes the pressure off the apparent inadequacies of "traditional" ethical theory. This approach can give a clearer picture of what can usefully be done during the transition to a clearer concept of the Internet and whatever that implies.

Its not that the Internet is without ethics - it has all the ethics that all the users have. What it does not have is the infrastructure that we are used to in society, that we have created and established over many years, to uphold and protect whatever values we hold. The call to simply move off-line ethics to on-line is misconceived, or misunderstood. Off-line ethics has moved on-line, that is the problem. What hasn't moved on-line are the controls and sanctions which make us feel easy, less threatened, in the running of our day to day lives.

The computer ethics, and subsequent Internet ethics, debate has generated some deep thinking, and analysis of the institutions we already have in place. The proposal put forward above continues this trend, but offers a more structured approach and a practical goal.

ACKNOWLEDGEMENTS

Thanks to Diane Whitehouse for her useful comments following the presentation of these ideas at to the IFIP SIG9.2.2 group at Namur, Belgium, (January 2000).

This research is funded by the EPSRC, as a studentship award.

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http:// elj.warwick.ac.uk/elj/jilt/wip/3redding/

APPENDIX B: 4 "The process of ethics"

The Process of Ethics

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Abstract:

A prominent, public debate regarding the possibilities available to regulate the Internet has surrounded the expansion of this increasingly ubiquitous medium. It was the intention of IFIP's special interest group on a Framework for Ethics to facilitate contibution to this important discussion. The group did so by organising a series of rolling workshops and a round table on the subject of Internet governance throughout the duration of the HCC5 conference. The details of the presentations, and the ensuing discussions, are described here. Not only did these events provide an ethical focus for the entire conference, they also enabled a particularly dynamic and interactive experience in the process of developing ethics.

Keywords: Internet, governance, ethical processes

Introduction

Parallel to the rapid growth of the Internet, there has been an increasingly urgent debate surrounding the issue of regulation. Concerns regarding security, privacy, illegal and harmful content (among others) have all contributed to discussions between governments, professional bodies, and consumer organisations as to what steps could or should, be taken to protect users. At the extremes of the debate, there are two constituencies: those who argue that any regulation goes against the spirit of the Internet and, moreover, that its success can be attributed to the absence of regulation; and those who see the lack of regulation as a threat not only to its potential success as a communications medium but also to certain moral or societal values.

The outcomes of this debate cannot be understated. The influence of the Internet on the commercial world alone will impact on every member of society in the developed world and, as the number of users continues to grow exponentially, the Internet will form part of the fabric opeople's daily lives. Whether regulation is appropriate, how it could be managed and by whom, are key questions with fundamental ethical consequences. These questions deserve informed, open, public discussion and reflection.

In light of the importance, and urgency, of this debate, and in line with its commitment to create "spaces for discussion" (Berleur and Brunnstein; 1996, p263), the IFIP Special Interest Group, SIG9.2.2 (Framework for Ethics) organised a series of workshops and round table discussion around the theme "Internet Governance". These workshops and discussions are just one of the formats that the group believes to be an integral part of its mandate to develop various spaces, processes - or fora - for discussion - about the ethics of the Internet. The particular structure of the workshops and round table enabled the participants of HCC5 to

contribute actively to the debate, and it is hoped that the resulting publication (*Ethics and the Governance of the Internet,* IFIP Press, 1999) will continue to inform and stimulate discussion world-wide[1].

This paper gives some background to, and describes the events of, the series of rolling workshops and round table held during this conference (HCC5) on the topic of Internet Governance. The paper "Ethics and the Governance of the Internet" (Jacques Berleur) which also appears in these Proceedings gives an introduction to the governance debate, together with the recommendations of SIG9.2.2.

Background

The format of the workshops and round table was in the nature of an experiment. Rather than simply host the round table and present conference delegates with topics for discussion, the emphasis was placed on active audience participation. The rolling workshops were specifically designed to introduce topics relating to regulation of the Internet to the participants. Although the topics covered were considered to contain an ethical perspective, the papers presented were deliberately devoid of opinion. The intention was to offer the audience 'straight facts' so that they could assess the ethical dimensions of the questions for themselves. The idea behind this experiment was to provide conference delegates with concrete information so that they could give these matters some thought in advance of the round table session. They would then be able to participate more fully, and fruitfully, in the round table. It was planned that the structure of the round table session would evolve from comments collected from the delegates following the presentations, and that some members of the audience would become the presenters at that session.

To create a sense of continuum and participation, a member of the special interest group (one of the authors of this paper, Penny Duquenoy) was elected as rapporteur or 'collector of ideas' from the audience. The remit was to provide a summary of the previous workshops at the beginning of each workshop session and to collate opinions on ethical matters expressed by members of the audience during the week.

The Workshops

There were four workshops of approximately one hour each, arranged at intervals during days 1 and 2 of the Conference. The round table was held on the final day of the Conference.

The overall theme of the series of workshops was the governance of the Internet. The workshops explored three main forms of governance: technical controls; self-regulation (that is, norms regulated by professional or trade associations); and legal controls.

Rolling Workshop 1: Introduction

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[1] This publication has been distributed to IFIP national societies, and other interested relevant bodies. It is available on-line from the SIG9.2.2 website under "Ethics and Internet Governance": http://www.info.fundp.ac.be/~jbl/IFIP/cadresIFIP.html

Chair: Prof. Jacques Berleur (Chair SIG 9.2.2)

The first of the workshops was an introductory one. It was chaired by Prof. Jacques Berleur, who explained the nature and theme of the workshops to the audience. The audience was made aware of the participatory nature of the events, and Prof. Berleur introduced Penny Duquenoy as the contact person for their views on ethics. The audience was requested to refrain from discussions about ethics until the round table, but any questions to clarify the content of any presentation were answered at the time of the workshop.

As an aide-memoire to the ethical focus of the series of presentations, the members of the audience were asked to bear the following questions in mind :

What are the main ethical issues?
i) Should the Internet be regulated?
ii) By whom?
iii) How (including cost effectiveness)?

Rolling Workshop 2:
Technical Means to regulate the Internet
Chair: Eur. Ing. Richard Sizer (Member SIG 9.2.2)

The second workshop was the first in a series of presentation sessions. Two papers were presented, one on technical controls of the Internet and the other on filtering software.

"Internet Convergence and Technical Control", Prof. Joseph Kizza (University of Tennessee, Chattanooga, USA)

This paper presented the Internet as a combination of three media: communications, computer services, and broadcast. Each medium has its own problems in terms of governance and control. Within the communications area, there are ethical issues which may be a function of the level of security of the information held on databases at servers or the security of the data during transmission. With electronic commerce "predicted to be one of the fastest and largest components of the Internet within the coming couple of years", the security controls (involving both hardware and software controls) are related to server security, server access, and transmission. Technical security controls currently in use include firewalls (protection of the server) and cryptography (protection during transmission).

In the Computer Services medium, the loopholes in security are evident. Complex operating systems are exposed to risk in a variety of ways, such as hacking, fraud, and safety critical software. Again, security is the main issue.

From the point of view of the Internet as a broadcast medium, several issues (already well known in this medium) arise. These are issues of free speech, access, intellectual property, child pornography, harassment, and security. One of the technical methods of control is the Platform for Internet Content Selection (PICS), which provides standard of labelling web pages according to their content. This technology can be adopted by groups or individuals to set their own criteria for rating and accepting or rejecting web pages, leading to the development of filtering or blocking software.

behaviour by a group), and showed the methods employed by Internet users to establish some system of self-regulation (e.g. codes of conduct).

The methods classified under self regulation are diverse. They range from a variant of the "Ten Commandments", through to Netiquette, virtual communities' rules, charters, codes of ethics, and codes of Internet Service Providers (ISPs). Of course, with such a diversity of groups (and diversity of motivation) the priorities, and nature, of issues and principles differed. For example, the first item on the list of topics of the French Internet Charter Proposition aims to protect what they see as a "new space" (i.e. Cyberspace) of free expression and liberty, whereas the first item on the list of service providers refers to the legality of material. However, some generally agreed principles emerge (although the wording of the particular charters or codes differs). Some common principles advocate fairness, respect, honesty, sincerity, privacy, intellectual property rights, free speech, and seek to discourage computer crime and illegal, dubious, or harmful material.

Although self regulation is effective in several areas, in matters that specifically concern ethics, a number of issues still need to be addressed including: questions of participation; 'places' (physical or virtual) where self regulation is applicable; and enforcement. To be effective, regulations of codes or charters must be seen to be applied. Even where some sort of complaints or feedback procedure is in place, it is unlikely that any organisation will advertise its shortcomings, or inform the general public of weaknesses in its security. This poses some difficulties in evaluating the success/effectiveness of self regulatory procedures. It also seems that, in some instances, codes of conduct or charters are little more than "propaganda statements" or self-defence provisions.

Following this presentation, some comments from the audience included : Items mentioned in some codes of ethics/charters (e.g. fraud) are criminal offences. To focus a fruitful debate on 'ethically grey' areas, it might be helpful to distinguish between 'illegal' and 'unethical' activities.

Rolling Workshop 4:
The Internet - The Role of the Law
Chair: Prof. Joseph Kizza (Member TC 9)

This session offered delegates information on the legal issues currently under discussion with respect to the Internet. One presentation was made, as below.

"The Role of the Law", Laetitia Rolin (Centre de Recherches Informatique et Droit, Namur, Belgium)

This presentation focused on two issues of current concern to users of the Internet:

i) privacy,
ii) protection of copyright.

The debate concerning privacy began with the question, "Is privacy a matter of ethics or economy?". First the position held by the United States was outlined, followed by the position held by the European Union.

In the United States, the trend (although there are strong opponents) is for the private sector to lead the way. The government recognises the unique qualities of the Internet and is keen to avoid placing undue restrictions on its use. Electronic commerce is to be facilitated.

Statistics in the United States show that Internet users are concerned about their privacy, and the use of their private data. They also show that more people would use the Internet if their privacy were protected in some way. The implications are, therefore, that the use of the Internet for commercial purposes is not realising its potential, and the future expansion of the Internet is at risk.

The United States government believes that trust and confidence in the Internet must be restored in order to maximise its commercial benefits. An example of one mechanism to build trust comes from a private-sector initiative called TRUSTe, a standards-setting organisation that provides web pages with a recognised seal of approval. However, confidence is not being restored as fast as the Federal Trade Commission would like, and the Commission has demanded that effective self regulatory measures should be implemented before early 1999. If this does not happen, additional government measures will be deemed necessary.

Non-governmental measures, such as market sanctions can be helpful for the effectiveness of self regulation. In the case of privacy, shares in the Internet Service Provider, Geocities fell heavily following public exposure of its practice of selling information from its database.

Where government measures do exist, for example the Electronic Communications Privacy Act, these measures are not necessarily effective. In the McVeigh case in the United States, information regarding McVeigh was gained illegally (by his employer the United States navy) and given illegally (by his service provider). The Electronic Communications Privacy Act states that information regarding a subscriber may not be given to a governmental entity without a warrant or court order. In this case, personal information regarding McVeigh was obtained by the navy and used in court as evidence of behaviour which would lead to his discharge from the service. [1].

The position taken by the European Union is expressed in its telecommunications directive which argues the confidentiality of personal data. The link between privacy, confidence and trust, and the influence of these issues on electronic commerce is also recognised. However, as far as legal sanctions are concerned, there are problems because of conflicts in definitions. For example, is personal information held by Internet Service Providers traffic and billing data or the collection of personal data? Different rules apply to these categories. There is a lack of clarity in definitions of roles and scope of the actors involved. [2].

On the question of copyright, there is a tension between the law and technique. Technical solutions for resolving privacy on the Internet focus on the mechanics (techniques) of production rather than on the content of the work. If this concept is followed, and content takes a secondary position (or is ultimately ignored), the nature of copyright will be altered, and we could see the "death of copyright". This would have serious ethical consequences as far as traditional notions of the ownership of ideas are concerned.

Round Table on the Rolling Workshop

Chair: Prof. Jacques Berleur

The week of workshops culminated in a round table. The aim of this round table was to have discussion on the ethical issues and ideas arising from the previous three workshops. The round table's main points of discussion, and its ensuing resolutions are described in detail here.

Attendees approached Penny Duquenoy (as rapporteur) throughout the first two days of the conference to express their ideas and willingness to take the floor, and to give short, individual presentations to the audience at the round table. The presentations were as follows:

Prof. Colin Beardon (Plymouth University, UK)

Prof. Beardon was concerned that the impression in the first session on filtering/blocking software presented a rather 'negative' aspect of ethics: i.e. the workshop appeared to advocate blocking or suppressing free speech and freedom of choice; thereby, encouraging a culture where values were attributed by third parties rather than by individuals. He wanted to see an alternative approach to censorship taken, and he cited the analogy of ethical investment by proposing the idea of "ethical gateways". In the same way that an investor can choose to invest in companies that pursue an ethical policy (from information given by an investment adviser), an individual could choose to support ethical practices on the Internet (via an ethical gateway). This type of approach re-establishes ethical responsibility with the user, engaging the user in ethical choices. To take an active ethical position sometimes requires 'hard choices'. For example, Greenpeace is promoted as an ethical organisation and is very action-oriented. As far as professional ethics (and associated codes of conduct) are concerned, there is a choice between the 'third party' approach and a more individually 'engaged' position.

Mr. Gunnar Wenngren (Linköping University, Sweden)

Mr. Wenngren's question also arose from the first workshop on filtering/blocking software. He pointed out that there were ethical issues in the evaluation of the criteria used. The advisory groups for the various organisations and providers of software pronounce themselves representative of the Internet community. This announcement in itself is questionable. As far as the evaluation of the Internet is concerned (and the groups involved in the evaluations), several questions are raised: "who are the groups?", "what is their culture?", "are they a minority?", "what are their values?", and "do they even exist?". The answers to these questions are relevant in an assessment of their authority and credibility. Further research would be useful. Values are very different between cultures. For example, in Switzerland prostitution is legal and regarded as a service whereas a prostitute in Afghanistan would be executed.

Although the groups undertaking the rating describe themselves as "advisory", there must be someone who makes the final decisions. Who are these people? Also, if a small subsection of a site is filtered, is the whole site filtered? In addition, it seems that some vendors choose to filter simply because they do not like a certain page or organisation. It is therefore right to ask the question "what sites are on the banned list?". This information should be publicly available.

Finally, filtering software can be automatically included in off-the-shelf products. These decisions are in the hands of a very few people.

Prof. Leif Bloch Rasmussen (Copenhagen Business School, Denmark)

Codes of ethics often enter the scene when a professional association is in crisis - that is, after the particular event causing the problem has occurred. For example, in the United States currently, the medical profession is assessing its behaviour at the very moment that it has become publicly known that syphilis research on black Americans was undertaken earlier in this century without the knowledge of the persons involved. Within communities, ethics and morality have been variously described by philosophers. The Danish philosopher K. E. Løgstryp talks about spontaneity, sovereignty, and a life of caring and helping when people are in need, and Pierre Bobillier suggests that morality is with mother and child. To bring these themes together, Prof. Rasmussen proposed that the International Federation for Information Processing (IFIP) should concentrate on an initiative that examines the role of children and their families in relation to information and communication technologies. They should be viewed as learning entities which need access to the Internet. Let IFIP become the first ethical community!

Drs. Marc van Lieshout (Dept. of Informatics, University of Nijmegen, The Netherlands)

In the last presentation of the round table session, Drs. van Lieshout expressed his doubts regarding self regulation. His view is that the development of technology provides a choice between Faust and Frankenstein (a means to entertainment and amusement, but with a debt to pay). Although not a particular advocate of regulation/legislation, he foresees the alternative of self regulation leading to a development of norms and values imposed on users by, for example, software companies, leaving the user with no free choice. Society is developing a view of people that is based on fun and entertainment - should this view set the foundation of ethical behaviour? For these reasons, it may be impossible to resist the power or the pressure to regulate in a more formal way. To return to philosophy, Drs. van Lieshout reminded the audience that, according to Emmanuel Levinas, our conscience lies in the face of the 'other', and that we perhaps need that tension in order to ground our ethics.

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Discussion during this session was then open to the floor. Two general issues were raised that have previously been of concern to the special interest group on ethics (Berleur & Brunnstein, 1996; 241-56):

- were all the items for discussion within the series of workshops and within the special interest group more generally (such as intellectual property rights, security, and reliability) actually ethical issues?
- are ethics relative or fundamental? How possible is it to arrive at a universal set of ethics that is appropriate to all individuals? Alternatively, are there different sets of ethics relative to various broad cultural areas of the globe, such as the Far East, Europe, and North America?

It should be noted that the IFIP General Assembly has already pronounced on these questions. It favours the discussion of ethics in all countries rather than promoting the idea of one code. (Berleur & Brunnstein, 1996; 257).

An important suggestion was to think in terms of what we could strive for. Could there be a common starting point - for example, cross cultural values such as non-aggression, and peace? This proposal was supported. It was suggested that we question the underlying assumption of the Internet as an infinite resource, which it is not (e.g. unequal access), and that we look at the issues arising from a finite resource.

Finally, there were some comments from the floor regarding the document "One Planet, One Net: Principles for the Internet Era" drafted by Computer Professionals for Social Responsibility (CPSR).[2] The remainder of the discussion was dedicated to a review of this document.

Six very specific observations were made:

i) The CPSR document mentions rights but does not stress responsibilities enough. Rights should be linked with responsibilities.
ii) There is a need for debate with the United States (US)regarding censorship. Americans' use of the First Amendment closes many avenues of discussion (i.e. freedom of speech takes priority over censorship).
iii) The document is written from an individual point of view, an individual who has free choice. The document presupposes we know what it is to be socially responsible.
iv) The word "freely" or "without restriction" should be added to item 3 of the document (Net users have the right to communicate). It is vital that freedom of speech should be upheld, notwithstanding the dangers that this brings with it.
v) As far as governance is concerned we have several models. However, because the US model is the first to emerge on the Internet we are in danger of adopting only North American rules rather than formulating rules from other cultures. This view is demographically unrepresentative. Asian's constitute the majority of the world's population. We have a new opportunity to define a form of global government. Quite how this is to be achieved, we do not know.
vi) It was pointed out that, as an international federation, IFIP is well placed to obtain international views.

Another comment was that, since the Internet is international, then we should look to international law. However, it was pointed out that the basic principle of international government is sovereignty of countries. The Internet is one overriding entity - are we able to regulate it?

Summary of Resolutions

A number of proposals for action by IFIP emerged from the discussions in the final session. These included suggestions for activities at various different levels of the federation (whether within its special interest group on ethics or through its series of conferences on Human Choice and Computers).

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[2] See Appendix. Also available at: http://www.cpsr.org/program/nii/onenet.html (1997; the webpage has been last updated on December 8, 1999)

No definitive decision was made at the conference on which of the following proposals would be adopted. That decision-making forms the next stage of the special interest group on ethics' activities.

Broadly, the philosophy underlying any such efforts - shall we call it a pro-active philosophy? - was encapsulated in the following ideas. Let IFIP:

- act to mitigate unequal access to the Internet.
- use the Internet to develop a cross-cultural approach to a search for peace on earth .
- focus on children and families and their need to access the Internet to further their learning experiences. Promote netmaking, rather than networking, with kids.

Three specific areas of research to be undertaken by the special interest group on ethics were proposed from the floor:

- what are the principles underlying the internationalisation of any laws on the use of the Internet?
- can what has been learned from the United Nations' experience of developing a Universal Declaration of Human Rights (and its application over fifty years) be applied to IFIP?
- a study of filtering software to illustrate ethical behaviour.

Finally, the following proposal was made:

As part of its mandate, IFIP must act to promote public discussion about the ethics of computing. These discussions could take place on relevant topics. In such a forum, IFIP might:

- organise an active debate with North America on some more controversial questions relating to the ethics of the Internet.
- develop a channel or open forum for the expression of an Asian/Confucian ethics of computing.
- formulate its own guidelines for a charter on rights and responsibilities in the age of the Internet.

Overview

The series of workshops provided an ethical focus or theme for the conference as a whole. The discussion served as a reminder that computer scientists' involvement with information technology, and specifically with the Internet, brings certain professional responsibilities.

The format of the workshops was considered to work well. Giving factual information, with time allotted for discussion and deliberation among participants and between sessions, allowed a more informed and conscious debate in the final round table.

The success of the workshop series means that this is likely to be a format that the special interest group will use again in the future.

The proposals that were made enable the special interest group to move ahead in its work. Several stimulating, concrete, and positive suggestions were made which fit well with IFIP's

basic premise of creating fora for discussion on the ethics of computing rather than laying down a mandate for the behaviour of each of its societal members.

The ethical challenges posed to all members of society by the increasingly global use of information technology (and particularly by the Internet) are considerable, and will require much further careful thought as we begin a new century, and a new millennium.

The events reported in this paper describe the process of ethics, that is, of sharing thoughts and reformulating ideas. According to Jurgen Habermas (1983), discussion is at the heart of ethics, enabling learning and promoting understanding. In providing a forum for discussion SIG9.2.2. has endeavoured to activate and fuel the process of ethics.

Acknowledgements
This paper is based on "Governance of the Internet: An Ethical Point of view" in *Ethics and the Governance of the Internet*, Jacques Berleur, Penny Duquenoy and Diane Whitehouse, Eds. IFIP, Laxenburg - Austria, 1999. We are grateful to IFIP Press for authorisation to reprint.

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Berleur, Jacques & Brunnstein, Klaus (Eds) (1996) *Ethics of Computing: Codes, Spaces for Discussion and Law,* A Handbook prepared by the IFIP Ethics Task Group, London: Chapman & Hall, 1996, 336 p., ISBN 0-412-72620-3. (now available at Kluwer Academic Publishers, Boston)

Ethics and the Governance of the Internet, Jacques Berleur, Penny Duquenoy and Diane Whitehouse, Eds. IFIP Press 1999, Laxenburg, 56 p. (ISBN 3-901882-03-0)
(This brochure may also be found on the SIG9.2.2 website by clicking on SIG9.2.2 "Ethics and Internet Governance".):
http://www.info.fundp.ac.be/~jbl/IFIP/cadresIFIP.html

Habermas, Jurgen (1983), *Moral Consciousness and Communicative Action*, translated by Christian Lenhardt and Shierry Weber Nicholsen, MIT 1990.

Notes

[1] For further information regarding 'Timothy R. McVeigh vs. The US Navy' see:
http://dont.stanford.edu/cases/mcveigh/mcveigh.htm
http://www.wiredstrategies.com/mcveigh.html
http://www.lambda.org/McVeigh.htm
http://www.hrc.org/mcveigh/

[2] Regarding the current status of the discussion between the United States and European Union about art. 25 of the Directive, on "adequate protection", when there is a transfer to a third country of personal data, see:
'EU considers draft US "safe harbor" principles'
http://europa.eu.int/comm/dg15/en/media/dataprot/news/harbor.htm
'Joint Report on Data Protection Dialogue to the EU/US Summit, 21 June 1999'
http://europa.eu.int/comm/dg15/en/media/dataprot/news/summit.htm
'Opinion 7/99 on the Level of Data Protection provided by the "Safe Harbor" Principles as published together with the Frequently Asked questions (FAQs) and other related documents on 15 and 16 November 1999 by the US Department of Commerce (Adopted on 3 December 1999)', European Commission, Directorate General 'Media, Information Society & Data Protection', (DG XV 5146/99 - WP 27).
http://europa.eu.int/comm/dg15/en/media/dataprot/wpdocs/index.htm

APPENDIX

CPSR DOCUMENT - "One Planet, One Net: Principles for the Internet Era"
(reprinted below)

http://www.cpsr.org/program/nii/onenet.html : August 1998

One Planet, One Net: Principles for the Internet Era

The emergence of the Internet presents enormous opportunities and challenges to humanity. If we work to preserve its openness and diversity, we can ensure that the Net will be used to change the human condition for the better, and can prevent or mitigate its less desirable consequences.

The Internet is more than wires, computers, software, modems, routers, standards, and the applications that use them. It even encompasses more than text and pictures, and the audio and video that are rapidly joining those media. The Net is also the collective knowledge and experience of countless communities, each with its own modes of interaction, languages of discourse, and forms of cultural expression.

Certain principles must be understood and respected as we consider the more detailed daily questions that arise in the administration or governance of the Net. We believe that among these principles are the following:

1. The Net links us all together.
2. The Net must be open and available to all.
3. Net users have the right to communicate.
4. Net users have the right to privacy.
5. People are the Net's stewards, not its owners.
6. Administration of the Net should be open and inclusive.
7. The Net should reflect human diversity, not homogenize it.

The continuing evolution of the Internet presents both opportunities and challenges. We must work to counter the political, economic, social, and technical forces that work against these principles and threaten the promise of open communication on the Internet. Failure to do so may lead to a future in which the Internet is homogenized, commercialized, and regulated to the extent that it fails to meet its fundamental mission - to serve as a medium for maximizing human potential through communication.

1. The Net links us all together.

The nature of people and their use of networking technology provides a strong natural drive towards universal interconnection. Because the flow of information on the Net transcends national boundaries, any restrictions within a single country may act to limit the freedom of those in other countries as well.

The true value of the Internet is found in people, not in technology. Since each new user increases the value of the Net for all, the potential of the Net will only be reached when all who desire can openly and freely use the Net.

2. The Net must be open and available to all.

The Net should be available to all who wish to use it, regardless of economic, social, political, linguistic, or cultural differences or abilities. We must work to ensure that all people have the access to the technology, education, and support necessary for constructive, active participation. People in all walks of life should have as much right to send and receive information as do the affluent and powerful.

3. Net users have the right to communicate.

Every use of the Net is inherently an exercise of freedom of speech, to be restricted only at great peril to human liberty. The right to communicate includes the right to participate in communication through interacting, organizing, petitioning, mobilizing, assembling, collaborating, buying and selling, sharing, and publishing.

The Net offers great promise as a means of increasing global commerce and collaboration among businesses, but restrictions on information exchange would eviscerate that promise.

4. Net users have the right to privacy.

Without assurances of appropriate privacy, users of the Net will not communicate and participate in a meaningful manner.

The right to privacy includes at least three forms:

* Individual Network users should control the collection, use, and dissemination of personal data about themselves, including financial and demographic information.
* Network users should be free to use any available technical measures to help ensure the privacy of all aspects of their communications.
* Individuals have the right to control who they communicate with, and how they conduct that communication. The privacy implied by the decision to not communicate must be respected.

5. People are the Net's stewards, not its owners.

Those who want to reap the benefits of the shared global Net are obliged to respect the rights of others who may wish to use the Net in different ways. We must work to preserve the free and open nature of the current Internet as a fragile resource that must be enriched and passed on to our children.

Individual pieces of the Net, such as wires, routers, and servers, have owners whose economic rights and interests must be respected. However, just as the

ecosystem in which we live cannot be owned, the Net itself is not owned by anyone.

6. Administration of the Net should be open and inclusive.

The Net should be administered in an open, inclusive, and democratic manner for the betterment of humanity. The needs of all who are affected by the Internet - including current users, future users, and those who are unable to or choose not to be users - must be considered when making technical, social, political, and economic decisions regarding the operations of the Internet.

Although administration of the Net should aim to enhance its efficiency, availability, and security, it should not do so at the cost of discouraging use of the Net. Administration should facilitate and encourage greater use of the Net for communication, rather than inhibit it in any way.

7. The Net should reflect human diversity, not homogenize it.

The Net has the potential to be as varied and multi-cultural as life itself. It can facilitate dialogue between communities and individuals that might previously not have encountered each other in a dozen lifetimes. However, the Net could also become a homogenizing force, working to suppress diversity in favor of a bland globalism.

Individuals and communities should not be forced to forego local cultures and traditions in order to participate in the Net. In order to preserve the vitality that comes with a diversity of viewpoints, we should work toward helping the whole world participate as equals.

of the Intenet, and the initial insights gained from this work are merely a starting point for a deeper investigation.

2 New or old ethics?

We have mentioned above an underlying issue regarding "new or old" ethics, and the added confusion this brings to discussions of "Internet Ethics". We therefore consider it worthwhile at this early stage, to set out the two positions as we see them, and show that the framework we are suggesting can accommodate both perspectives.

We refer to the debate concerning whether current and foreseen innovations in the development of cyberspace offer intrinsically new kinds of socio-historical structures (novelty theory), or whether they simply provide the latest phase in longstanding, social developments (continuity theory).

For novelty theorists cyberspace appears to offer new social structures which create fresh ethical challenges requiring novel thinking. For example notions such as cyberspace may be seen as bringing changes to our previous conceptions of spatiality and temporality within social organization, or as changing our boundaries of real/unreal or physical/nonphysical. These conceptual changes may be seen as radically affecting the ways our interactions are to be regulated, and the content of those interactions. Continuity theorists, in contrast, see the issue as more that of applying existing frameworks of ethics, law and convention to internet-based activities. However even for continuity theorists there are no straightforward answers to how such frameworks should be applied. In either case, ethical issues regarding regulation apply both to the scope of regulation (what activities should or should not be governed by regulative frameworks?), the methodology of regulation (how is regulation to be organized?) and the justification and selection of regulation (what normative principles should guide us in deeming particular regulatory frameworks as the appropriate ones to adopt?). The denial of regulation *per se*, for simplicity, we will take s a special case of regulation.

Cyberspace provides, not just a field to which regulatory frameworks are to be applied, but also a forum for negotiation between those frameworks. Habermas's theories of communicative action and of discourse ethics take as central the negotiation and validation of norms within a public, communal discursive field. The result is a rich framework for the justification and selection of normative principles.

Habermas's theory of communicative action is itself based upon his early historical work analysing the 'public sphere', that is various forms of discussion and debate that grew up in early capitalist society during the eighteenth century. If we are to apply Habermas's insights to the Internet, then, it may look as though we are committing ourselves to a continuity perspective, seeing current developments as the most recent phase of a long-standing set of historical processes. However this is not necessarily the case. For, as we shall see, Habermas's conception of discourse ethics allows us to view the Internet and cyberspace as heralding a new era of communicative activity with new forms of social relationship.

For the Internet to be useful there must be some framework for trust, which assimilates features from established practices and carries them through to a changing environment. Turst operates in a shared space, and although some "useful (to some) activities require deceit, this implies misplaced trust on behalf of others.

3 The work of Jürgen Habermas in relation to the Internet

Habermas's early work (1962) was an investigation of the social construction of early capitalism as exemplified by bourgeois 18C social institutions such as private clubs, coffee houses, learned societies, publishing houses and journals. These institutions encapsulated a variety of rights and norms, and raised issues rather like those raised by the Internet as a forum of communication and discussion of today. Obviously there are enormous differences based upon the fact that the 18C bourgeois public sphere was an elite institution whose membership was enjoyed only by the few, whereas much of the interest of the Internet today is centred around its potentiality to support activity of an ever-increasing proportion of world-wide society. Habermas saw these institutions as acting as an interface between the state and society; and it may be that the Internet plays a similar role today.

Habermas maintains a cautious optimism in the possibility of a public communal communicative activity as a means of enabling democracy to flourish in society, particularly the complex technologically dominated and culturally pluralistic society of the late 18C. Although naturally the Internet is not mentioned, it clearly fits into his picture. At the centre of Habermas's mature theory is his key notion of *communicative action* (1981) whose essential goal is to attempt to reach agreement or mutual understanding rather than achieve a manipulated dominance of belief. At the heart of this practice is each participant's subsuming their own

individual goals to that of achieving a cooperatively shared practice. Habermas developed in turn a special moral theory, *Discourse Ethics*, which he believed emerged from his theory of communicative action. The guiding principle governing discourse ethics states that in order for any norm to be morally valid everyone relevantly affected must be able to accept the consequences of its being put into practice (1983: 65). Habermas believes that this version of the universalization principle (a type of principle familiar since Kant) is derivable from a consideration of what is presupposed in the notion of an ideal speech situation where all participants are free from "all external constraints" and where only the quality of argument counts.

4 Habermas's Discourse Ethics

Discourse ethics (by definition) is about communication. Jurgen Habermas (1983) argues that the unique features of being human include an ability for rationality and language communication. He uses rationality as the universal underpinning for arriving at legitimate ethical norms. Habermas - by using communication in the form of argumentation - actively involves others in a dynamic way thus bringing a more explicit social element to the ethical domain. He states: "In his capacity as a participant in argumentation, everyone is on his own and yet embedded in a communication context" (1983: 202). On this view moral judgements are ideally arrived at through a joint endeavour to achieve understanding, instead of by individual reflection based on an *assumption* of mutual understanding (which, according to Habermas, is the position taken by Kant).

The resulting ethical positions are not static and fixed, but are dynamic and grounded in the social world. Their legitimacy comes from this grounding, expressed as a consensus of the participants. The process of (valid) argumentation, by its critical nature, tests the validity of claims (in the same way scientific argument tests validity) and by this process has the capacity to identify and correct mistakes. In other words, a learning process is opened up.

Thus Habermas gives us a procedure by which to arrive at and assess moral norms. Section 7 elaborates the criteria and conditions which Habermas requires for his theory.

5 Discourse Ethics and "Cyberspace": the problems of culture and new concepts

One of the perceived difficulties of achieving an ethical consensus is the cultural diversity of the Internet, and hence a diversity of ethical priorities and values between communities. Although Habermas does not claim that discourse ethics can be used "inter-culturally", the underlying principle of rational argumentation can provide a platform for discussion. The mediating role of discussion, in the form that Habermas describes, allows for exchange of ethical views with the potential for reaching agreement. That is, cultural differences do not necessarily mean a "stalemate" situation.

Habermas argues that our individual ethics are inextricably linked to our life experiences and social norms in a two-way interaction. Our individual moralities construct a society which in turn is reflected back to the community in the form of "institutions". Consequently our ethical views are entwined with our culture, carrying the implication that although communities have the potential to reach a consensus regarding moral action, the scope of consensus is unlikely to be far reaching. However, if we pursue this argument, we could say that the increasing internationalisation of individuals (i.e. a growing exposure of individuals to other cultures and ways of life) is part of our life-world experience. Moreover, following the thesis of two-way interaction, the input of cultural exchange via the Internet may lead to a new social construction; the Internet being the institution which reflects a new morality by the same process of reflection mentioned above. That is, the public belief of "cyberspace" becomes a social reality and is sufficient to be called a community within which valid norms will be generated.

This brings us to perceived difficulties of a rapidly changing environment. If, as Habermas suggests, our moral views are context-sensitive, then a changing environment implies ethical changes over time. A new environment may mean a new morality. According to John Ladd (1977) this is because traditional norms and principles are called into question, and standard moral practice is no longer relevant in the new situation. Hitherto the period of transition has been gradual, and the changes subtle and almost unnoticeable. It could be that the speed of change forced by the Internet has not been matched by our individual (moral) adaptation in this instance, and we see a resulting ethical tension evidenced by debate at all levels. Put simply, there is a "mismatch" between our conventional ethics and cyberspace ethics, as we endeavour to catch up with new concepts.

6 Regulation

The enabling aspect of the internet - for instance the way it fosters freedom of expression, and the scope of its reach - has generated a number of ethical issues. These apply both within nations or cultures, and transculturally and internationally. These ethical concerns relate to issues such as freedom of speech, censorship, access, privacy, harmful content, to name but a few. Addressing these concerns within a purely national context, though difficult, would probably be easier than trying to find internationally binding solutions. Because of the global reach of the internet (including its specific design features, such as re-routing) the "continuity" position advocating traditional methods of regulation to achieve universally acceptable or accepted solutions would be especially problematic (Berleur and Brunnstein, 1996). Nevertheless clearly it would be unwise and to settle for anything less than global resolutions of such concerns. In the face of this what general principles, governing ethical or normative decision-making might be brought to bear on achieving such global understandings?

The development of the Internet so far has been withou formal regulation. There have of course been regulatory mechanisms in the form of protocols, and practices achieved by consensus. However, as use of the Internet grows so too has debate regarding regulation. Governments are involved in this debate, wishing to encourage the continuing development of the system (seen as offering a great many benefits in many spheres of life, including trade) and to protect the user/consumer. So far, governments are treading warily, appreciating the speed of technological change and the difficulties imposed by the technology (not least of which are problems of definition; the Internet pushes the boundaries of current models regarding communication media). There is a trend for a range of regulation; at one end self-regulation, and at the other, formal, governmental legislation. (See for example OECD, 1998.)

Formal legislation, traditionally applicable within physically defined national boundaries, can of course work internationally, but the controls and constraints of physical borders applicable to our geographical environment do not transfer easily to "cyberspace". Using the metaphor of "cyberspace" encourages a spatial and somewhat abstract concept leading to an impression of a "virtual world". This abstract entity compounds the perceived difficulties of enforcing legislation. Within this environment, which is controlled and constrained by users and technical development (respectively), the emphasis is on self-regulation and a response to perceived ethical concerns in the form of trust-building initiatives.

(Department of Trade and Industry, 1999.)

Self-regulation by itself does not solve ethical differences. However, the *process* of self-regulation (driven by the necessity for reaching agreement) involves discussion and negotiation.

7 Discourse Ethics in practice

This section illustrates by example discussions concerning regulation regarding the Internet which have taken place in the last year.

Forums were specifically set up to attempt to reach a consensus on outcomes. The first, a series of workshops leading to a round table, (Rolling Workshop: Ethical Governance of the Internet; and Round Table 4: Governance of the Internet: Ethical Point of View) took place as part of the IFIP conference Human Choice and Computers (HCC5) and was organised by IFIP SIG9.2.2 to meet their objective of providing "spaces for discussion" (as set out in the preface to Berleur and Brunnstein: 1996). The second was a EURIM (European Informatics Market: see http:/www.eurim.org/) working party investigating the role of regulation, in particular self regulation, in connection with the Internet. (N.B. One of the authors of this paper was a participant in both groups in an official capacity as rapporteur.)This paper is not so much concerned with the outcomes of the meetings mentioned above, as with the procedures, and how far they meet the conditions of discourse ethics as described by Habermas. These conditions are i) universalization, ii) the validity of moral norms, and iii) consensus (1983; 65-6,93). In Habermas terms the requirements for *all* those participating are:

i) freedom,

ii) equality and

iii) uncoerced agreement.

Did the events under discussion meet these conditions?

8 The two groups

8.1 Workshops and round table organised by SIG.9.2.2 (IFIP conference, HCC5, Geneva, August 1998)

The participants in this case were the conference delegates, many of whom were members of IFIP. They were attending in their own right (i.e. not as representatives of organisations) and therefore were free to express their own opinions and make their own choices. The first criterion is met.

The workshops provided background information on network governance (by way of presentations), and delegates were given the opportunity to clarify details of the presentations following each workshop. They were encouraged to pass to the rapporteur any comments they had for discussion at the Round Table session (held at the end of the conference). The format of the Round Table session was a series of presentations by those delegates who had asked to speak and had something particular to say, followed by discussion. All participants had equal opportunity and rights of participation. The second criterion is met.

Following the discussions at the Round Table session some resolutions were sought by the Chairman. Some participants made proposals, which were voted on, and accepted for pursuing in the future. There was a consensus based on standard voting protocols.

8.2 EURIM working party on Network Governance

This group differed from the one described above in that the participants were representatives of organisations that have an interest in regulation and the Internet. Meetings were, on average, once a month, but the timings were essentially driven by forthcoming proposals concerning Internet regulation from the European Commission and from the United Kingdom government. The participants were free within the group setting to participate and argue, but bearing in mind their attendance as representatives of other bodies, the question of freedom of their own individual opinion cannot be assumed. The criteria can be met on the level of expressing the opinion of the organisations represented, but not necessarily at the individual level. Point (i) is not met literally.

There is a hierarchical structure to this group (due to administrative constraints), consisting of a core working party, plenary meetings and consultation meetings. All those present at any of the meetings had equal opportunities and rights of participation. Generally, any member of EURIM expressing a desire to attend any meeting would be welcomed. Therefore, although participation is largely a matter of personal choice, there was not full participation at all meetings. However, all concerned were kept informed of progress, and new moves were not made without consultation with all concerned. In this respect equality was maintained. Point (ii) is met.

The purpose of the group was to investigate the role of self regulation within the context of the Internet and produce a briefing paper summarising the EURIM position and detailing EURIM

recommendations. This was produced after extensive discussion and consultation, and agreement given by those participating. A consensus was reached. Point (3) met.

8.3 Summary of the discussions

This short summary shows a similar pattern to discourse ethics. Although it cannot be said that a particular ethical issue was being discussed in these cases, ethical issues regarding the Internet were in general discussed and principles and recommendations put forward as a result of the discussions. As one of the principles of discourse ethics requires "freedom from constraint" it is a moot point whether both groups met the conditions set out by Habermas. Some may say that individuals are under coercion from the organisations that employ them, but we argue that as representatives of an organisation they are not coerced.

Even without the direct element of a particular ethical topic, insights can be drawn from the analysis. Both groups can be classified: the IFIP HCC5 event surely meets the conditions of "communicative action", which is a prerequisite for discourse ethics; and the EURIM series, *if* it is decided that a level of coercion exists, would be classed by Habermas as "strategic action".

9 Conclusions

This paper shows that to some extent a discourse ethics is already in operation outside, but about the Internet. The discussions surrounding the issue of regulation of the Internet, and the way the discussions are managed, are similar in many ways to the discursive atmosphere of the 18C coffee houses that Habermas refers to. Modern society is also in the process of bringing a regulatory framework to an anarchic situation, at the same time seeking a framework that will maximise the possibilities of innovation and creativity. It is impossible at this stage to derive any clear practices from this, but we hope that future studies will draw out how Habermas's theoretical scheme can help to illuminate practices in this fundamental area of social activity.

Constraints of space limit us from expressing the many productive ideas Habermas stimulates, and which we will explore in a larger paper.

Acknowledgements

This work was supported by EPSRC grant number GR/M14548. Penny Duquenoy is a PhD student funded by EPSRC.

Thanks to IFIP SIG 9.2.2 and EURIM for permission to use the examples given.

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Personal Data: Issues of Ethics and Regulation Seminar Statement

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Information technology has made the collection, collation, and dissemination of personal data easier than it has ever been before. Information about people is useful to a variety of sectors for a variety of reasons, including political and commercial. The combination of both these factors, facility and usefulness, can be both beneficial and detrimental individually, and socially.

In the western world we have become used to requests for information about ourselves in all walks of life, "form-filling" has been accepted as a necessary part of "the system" and a pre-requisite of social inclusion. However, the increased demands for personal information and the misuse of that information (predicted and actual) raise a number of questions concerning relevance and motives.

Addressing the question of dangers to privacy, liberty and other human values, we can usefully look at historically accepted confidential contexts (doctors, priests, counsellors) and ask why confidentiality has been considered important in these areas. Where is the boundary between the intimately personal issues revealed in the above context, and information revealed by surveillance and profiling regarding personal habits. The primary distinction is of course that in the first case we know, and are in control of, how much is revealed; in the second case we neither know, nor are in control of, how much is revealed. Equally important is the fact that we do not know for what purpose this information is collected; what we can predict is that on the basis of the information some assessment, judgement or decision will be made.

As the future world of Information Technology looks to be populated by "intelligent agents" working at an ever-increasing speed, the potential for disseminating personal information in a way, and to an extent, which is beyond our control increases. Under these circumstances it is even more important to be clear about the justification for collecting (storing, and using) such data, and to ensure the integrity of the information, information holder and information supplier.

Not only will there be the increased possibility of the spread of "mis-information", but intelligent agents introduce the ability to make judgements and decisions out of the human context, and with faster consequences than our reactions to them. This is already happening to an extent, how far are we prepared to allow it to go? I suggest judgements and decisions require a richer environment. What policies and provisions are in place to i) educate, or ii) protect, individuals in this context?

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Virtual Education Statement

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ICT offers a great potential for learning – geographic proximity and "room size" need no longer be constraints on those wishing to extend their education. According to this scenario access to global communications is the primary criteria, and everything else follows easily.

Anyone who is, or has been, involved in education (either as a "learner" or "disseminator") will realise that much more is involved than simply providing the resources. The concern I have regarding this issue is that a functionalist view - so common with administrators in the learning field today - will prevail, and the "human" touch, which I consider a vital factor in learning, will be marginalised.

The "pro's" and "con's" of virtual education

In an ideal world we could list the advantages of virtual education as follows:

- Cheap, fast and easy access to education by all
- A supply of expert knowledge accessible with a "mouse click"
- not Direct interaction between students and tutors
- Interaction between students of diverse culture and background
- Implicit "technological literacy"

In a "not so ideal world" the following may be true:

- Access will be restricted either by financial or literacy constraints – promoting a widening literacy gap
- Everyone can claim to be an expert
- Educational promoters will take the easy route of "posting" educational material without any consideration to student/tutor interaction, or feedback methods
- Minority cultures will be disadvantaged as a result of language, for example, or less obviously other cultural differences (perhaps in education/learning methods and concepts).
- A dependence on technology to the detriment of other avenues of learning which may be equally valid (experiental, literature, etc.). For example, will digital representation be the only valid form of information?

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Information Provision

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Computer systems are fundamental tools within most organisations today. The shift from paper systems to digital systems has altered our concepts of information to the extent that information management (and processing) is a key feature of, if not central to, the workplace. Digital technology has made the gathering and manipulation of information easier and faster than it has ever been. Time is an expensive human resource which in the past put constraints on information gathering, and hard decisions had to be made regarding the cost effectiveness of information processing.

The focus has now changed - replacing human power with computing power has brought the potential resource of information as a commodity within economic reach of most organisations. The possibilities of information manipulation have generated both tremendous excitement and a great deal of concern; excitement that new things become possible - small organisations, as well as international companies, can now advertise and conduct business globally via the Internet, and concern regarding the possible misuse of information.

From the point of view of an organisation, information can refer to people, things or events. How an organisation uses information depends very much on the type of organisation. For example a marketing company will be interested in information about people, whereas an environmental agency is more likely to be concerned with scientific statistics. For a directory of services (such as Yellow Pages) information is the commodity of the company, for a manufacturing company information relates more to its infrastructure. Particular areas for ethical concern are where information relates to people, and where information is used deliberately to mislead or exploit.

The ethical management of information by organisations in this new 'Information Age' should bring no surprises. Organisations have been managing their information for decades. Information has, in the past, been treated with respect - company accounts, customer lists, salaries etc. are usually closely guarded, and only released in compliance with the law. Of course, the respect given to company information is due in part to the financial value of the information, it is to the benefit of the company to 'look after' information concerning itself. However, information as a commodity is a different matter - there is no 'personal' tie with the company. The content is not relevant to the organisation in any way other than its market value, but its content may well be human related (information about you or I, for example) and therefore 'personal' to somebody. This distinction between information per se and information as a commodity is important because of the different motives (and consequential benefits) in operation.

Motive is entirely relevant to the issue of social responsibility in information provision, but the question of 'why' is often ignored. Commissions for software, or a system set-up, are more often based on 'what is needed' rather than 'why it is needed' (or even for how long will it be needed?). Awareness of both the possibilities and constraints of a design, together with the consequences.

should be integral to the education and training of future designers and information managers. The question 'why' might also go some way to reducing the surfeit of information coming our way - quality not quantity will become increasingly important. Those dealing with information will need to fine tune their abilities of judgement and discernment.

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CCSR/ESRC seminar: Professional Responsibility

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For the purposes of this discussion we have chosen to address practical matters and locate our contribution within the field of design.

Firstly, responsibility refers to people, not things. In the case of professional responsibility the people concerned can be categorised into the following groups; the user or customer (not necessarily one and the same), the employer, the shareholders (or owners). In practice, it is unusual that actions taken by the professional can comply with notions of responsibility to all groups. That is, there are likely to be conflicts of responsibility to each of these groups. What should the professional designer do, faced with these choices?

Surely one of the criteria for professionalism is to do something well. The underlying ethos of design is to create something new. The responsibility of a professional designer therefore is to design well, or make a "good" design. We suggest that a good design is to make an improvement in some way. If the design has a practical "use", as in the case of technology, the criteria for improvement must include improved "usability". A good designer, then, has a professional responsibility to include "improved usability" in their design. [1]

Evidence suggests (e.g. [2]) that designers are somehow prevented from meeting their professional responsibilities, and are having to make compromises to market forces, in the form of time, cost and "added value" constraints. For example, much of today's technology is unnecessarily complex due to the added features, sold to the customer as improvements, but so badly designed and explained as to be virtually unusable. We argue this is unethical – but our society has blind spots. Unusability ("my children set my VCR!") is a joke, or hidden behind fashion ("Haven't you got the latest one?").

Of course, it can be argued that designers have a responsibility to their employers, who in turn have a responsibility to the company. The company has two areas of responsibility, one is to shareholders (or profit) the other is to customers. Although these two areas are often seen as conflicting it need not necessarily be so; it could be argued that a successful company is one that meets both conditions.

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[1] We have elaborated on these ideas in our paper "Justice and Design" to be presented at Interact'99 (http://www.cs.mdx.ac.uk/harold/srf/justice.html)

[2] Thimbleby, H. W., (1997), "Design for a Fax". *Personal Technologies*, 1(2), 101-117, Springer-Verlag London Ltd.

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Title: The Internet and Discourse Ethics

The opportunity of fast, easy, and relatively accessible global communication introduced by the Internet has generated enormous excitement on a number of levels. For research and business purposes information can be rapidly exchanged; at a social level contact can be initiated and maintained; and at an educational level it provides a route of access to new information sources. At a deeper level, and inherent within this interaction, is the exchange of thoughts and ideas within which our cultural backgrounds are implicitly contained.

This article is set within this latter context, taking ethics as its perspective and looks at the role that Habermas's Discourse Ethics could play in this emergence of a new global society. Given the unfamiliar territory of the Internet, and the absence of familiar "interpersonal cues", ethical discussion can play an important role in building a new social picture.

Habermas's Discourse Ethics, underpinned by his theory of communicative action, makes explicit the potential of universal understanding. I take this as my starting point, and argue that the Internet provides a new, and exciting, platform from which we can gain an increased understanding of diverse ethical opinion. My claim is not that Discourse Ethics will lead to a global consensus on ethics, but that it provides a useful framework for a process of exchange and enlightenment. After all, an important element of Discourse Ethics is the expression of individual reflection in the public sphere.

It may be worthwhile at this point to clarify two distinct positions concerning the relationship between Discourse Ethics and the Internet. The first is to view the Internet as a medium of global communication, which as such provides the means of one-to-one and one-to-many communication. In this case, quite obviously, the basic requirement of "communicative competence" is enhanced, and the practice of Discourse Ethics is facilitated. The second perspective takes the Internet as a concept of a new social space, without established moral norms or conventions, to which the ideas of Discourse Ethics can be applied. Although these two perspectives have different objectives, the Internet provides an important common link through its psychological impact which should not be underestimated; people are excited by the Internet, and the idea of global communication. This excitement could generate a global interest which is capable of providing the motivation to "reach out" and not only exchange views and opinions with users from other countries, but also endeavour to build some form of ethical coherence.

This is an inspiring prospect, but what of the practicalities? According to Habermas (1990) the pre-conditions for this type of discourse are that all participants should be willing to engage (which implicitly requires an open mind), competent (have the ability to be rational), and be free from coercion. Internet users can, potentially, meet all those requirements. Reservations may come with the issue of free expression (not recognised by some nations), and language competence (a global exchange necessitates translation). Achieving understanding through dialogue can be demanding enough in one's own language; it is likely to be even more challenging via translation. However, that is not to say it is not worth attempting. In a practical way then, the Internet can facilitate the process in the following ways:

- by offering a platform, or "space for discussion" which is free and uncoerced
- by actively encouraging the exchange of views in a cooperative and open environment
- by giving opportunities for such discussion (including translation)
- more specifically, via discussion groups, web pages (linked to discussion groups, information, and suggested reading)

- by offering a focus for discussion (perhaps taking the two different viewpoints outlined above: that is, (i) what moral norms might be appropriate within the Internet society? (ii) identify areas of agreement, i.e. common norms and values)

and finally, by advocating and promoting policies which facilitate the furtherance of these ends.

An important question not yet addressed is "why should Discourse Ethics be used in this context?" Constraints of space do not allow for any adequate discussion of other theories here. I propose instead to briefly summarise the reasons why I believe Discourse Ethics has something to offer in the Internet arena.

Discourse Ethics concerns the validation of norms by rational consensus. The Internet is in an evolutionary stage, and norms will be developed. This is exactly the use for "practical discourse" that Habermas has in mind (1990: 103). The rapid development of global communication calls for a dynamic approach which this theory can meet. Janna Thompson refers to the theory as "diachronic" and notes "background assumptions, theories and moral principles are revised and changed in response to criticisms, changes in sensibility and new ideas. It emphasises ethical change and the evolutionary development of ethical understanding" (1998: 38-39). The procedure of discourse is appropriate to the context of the Internet, given the current trend for "user autonomy", and the cautious approach exhibited by governments to put in place regulatory measures. An additional advantage is that the process follows democratic principles – principles that are currently in favour, and known to, a large proportion of the user population.

Within a broader vision, the users of the Internet can bring a richness and diversity to our individual ethical perspectives. This input, together with the reflective process required in the rationalisation of our own moral beliefs, not only extends our understanding, but also allows a critical assessment of why we hold the views we do, and makes room for a change in views. Even without a consensus being reached the process of discourse should lead to enlightenment, mutual understanding, and perhaps some agreement on common core ethical principles. (Similar arguments, but with different agendas, are given by Nigel Dower (1998), arguing for "cosmopolitan ethics"; and Berleur and Brunnstein (1996) on international codes of conduct.) By providing the means the Internet offers an unprecedented opportunity to clarify and identify universal moralities - I believe Discourse Ethics can provide the method.

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Hypertexto, February 2000